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ABSTRACT

This study's purpose was to increase student and teacher motivation by providing students the opportunity to engage in the problem-solving process and solve student-identified campus or community problems while achieving the competencies of the Small Group Communication course at the community college. The researcher integrated two pedagogies: problem-based learning and service learning. Three cycles of action research, a nascent qualitative method, were conducted over a period of 8 weeks. While meeting the course objectives for small group communication, student teams implemented 5 service projects during the fall 2002 semester. The results of the pragmatic approach to educating students were that student and teacher motivation significantly increased. Additionally, students met cognitive and affective learning objectives. The study also showed that combining the two methods was highly efficacious, and the role of the teacher-researcher as a participant and stakeholder in the real-life projects was significant to the project outcomes. The study recommended that the inherent strengths and natural articulation of problem-based and service learning indicate they can be combined as one authentic teaching methodology. The study demonstrated that combining the two strategies benefited both students and the community. After recommendations are provided, 13 appendixes contain: Student Pre-Questionnaire; Course Competencies and Syllabus; Service Learning Assignment; Post-Survey/Final Interview Questions; Student Journal Assignment; Student Journal Prompts; Student Journal Rubrics; Data Interpretation Questions; Student Concerns; Contents of Selecting Area of Service Presentation; Contents of Group Problem Solving Booklet; Group Progress Tracking Matrix; and Self and Peer Evaluation Instrument. (Contains 64 references.) (ND)

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A PRAGMATIC APPROACH TO EDUCATING:

CONNECTING PROBLEM-BASED LEARNING TO SERVICE LEARNING

by

Roselyn M. Turner

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A PRAGMATIC APPROACH TO EDUCATING:

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Abstract

The purpose of this study was to increase student and teacher motivation by providing students the opportunity to engage in the problem solving process to solve student-identified campus or community problems while achieving the competencies of the Small Group Communication course at the community college. The study integrated two pedagogies, Problem-Based Learning and Service Learning. Three cycles of Action Research, a nascent qualitative method, were conducted over a period of eight weeks. The results of this highly pragmatic approach to educating were that student and teacher motivation significantly increased. Additionally, students met cognitive and affective learning objectives. The study also showed that combining the two methods was highly efficacious, and the role of the teacher-researcher as a participant and stakeholder in the real-life projects was significant to the project outcomes. The study recommends that the inherent strengths and natural articulation of Problem-Based Learning and Service Learning indicate they can be combined as one authentic teaching methodology. Combining the two strategies benefits both students and the community. While meeting the course objectives for Small Group Communication, student teams implemented five service projects during the Fall 2002 semester.

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CHAPTER 1. INTRODUCTION TO THE STUDY

Introduction to the Problem

"So faithfully did Dewey live up to his own philosophical creed that he became the guide, the mentor, and the conscience of the American people; it is scarcely an exaggeration to say that for a generation no issue was clarified until Dewey had spoken" (Ryan, 1997, p. 18). Dewey's pragmatic philosophy and practices had a profound effect on early public education in America. He envisioned the classroom as a microcosm of democratic society and, mirroring the sentiments of Thomas Jefferson, believed the purpose of public education was to instill in learners the values of citizenship and civic involvement. Today, educators in America are again listening to Dewey as the population re-awakens to its civic responsibilities. Examples of this educational pragmatism are found in active and experiential learning opportunities for students and are currently manifested by such practices as Problem-Based Learning (PBL) and Service Learning.

Growing in popularity, PBL pedagogy involves students collaboratively "solving" content-related, teacher-crafted, hypothetical problems (Edens, 2000). The solutions are not deemed "wrong" and vary from group to group. While this Constructivist strategy has its documented merits for learning, it falls short of Deweyan pragmatism in that the problems are not real, and the solutions are not actually implemented (Leary, 2001).

Another increasingly popular pedagogy, Service Learning, involves the achievement of course competencies in the context of community service. Community and/or campus problems are tackled by students who are placed at agencies or events to serve others (Fogarty, 1997). The motivations for the Service Learning project vary from simple, short-term volunteerism to active civic involvement for enacting policy change (Oakes, 2002). While the results of Service

Learning are highly pragmatic, this strategy does not directly engage students in the problem-solving process.

However, to this date, a review of current literature reveals little, if any, articulation between, or intersection of, these two educational approaches. Wouldn't a marriage of PBL and Service Learning promote the pedagogical pursuits of each doctrine? Might this combination prove efficacious and enhance learning in a synergistic way, providing something more that neither of them separately could have been provided? This study combined PBL and Service Learning strategies, modifying the teacher-centeredness and hypothetical aspects of traditional PBL, and adding the collaborative problem solving process to Service Learning to form a highly pragmatic, approach to education.

Background of the Study

In response to political and administrative calls for accountability of student achievement, the faculty and staff of Estrella Mountain Community College in Avondale, Arizona, in 1998 identified two abilities that would be targeted for instruction and assessment across all disciplines: critical thinking and communication. One of the efforts to encourage faculty to incorporate these abilities in their classrooms included an introduction to PBL in the fall of 2000. Two of the strengths of PBL are that it engages students in a number of aspects of critical thinking and communication. Though PBL is traditionally used in the science and medical disciplines, this teacher-researcher identified many practical applications and consequently embraced the pedagogy for her Small Group Communication classroom. Initially, students achieved the competencies for the course through the process of solving teacher-crafted, hypothetical problems. A concern arose; however, as it became apparent that the initial

motivation of the students and the author to engage in this process waned as the semester progressed. Evidences of lagging student motivation were increased absenteeism and tardiness, and an observed lack of enthusiasm, participation, initiative, and responsibility (Pintrich & Schunk, 2002). Indicators of decreasing teacher motivation were lack of enthusiasm and reduced self-efficacy (2002).

When a serendipitous opportunity presented itself for the students to solve a genuine real-life problem on campus, the students requested (with renewed enthusiasm) that they be able to do so, rather than continue working on hypothetical problems. Working through the PBL procedure, the students planned, advertised, and hosted a used textbook sale/trade event, and developed an interactive web site, thereby solving a real life problem: the campus had no recognized method for students to sell or trade used textbooks with each other.

Student evaluations of the course were highly favorable toward the real-life problem solving opportunity, and less favorable toward the process that utilized the hypothetical problems. Students commented that the real-life problem-solving experience was better than "playing games" in the traditional PBL mode, and felt that they had learned more about how to interact with small groups when faced with a real problem. Student records and the author's (as the teacher) own observations indicated significant increases in student attendance, punctuality, enthusiasm, initiative, and responsibility during the real-life project.

After having reflected on the experience, searching the literature on PBL and Service Learning, and attending various workshops identified with these strategies, the author saw the potential that could be unleashed by combining PBL and Service Learning.

Statement of the Problem

It is the professional responsibility of all educators to continuously observe, reflect, and assess their practices for improving instruction to the benefit of all learners. When a concern or opportunity arises, it is self-evident and inherent to a true professional that it is addressed and resolved. It is equally inherent that said resolution will include modification of existing practices and/or the inclusion of new strategies. Therefore, the problem to which this dissertation is directed is the following: Traditional Problem-Based Learning, while a proven legitimate pedagogical strategy, failed to sustain student or teacher motivation in the Small Group Communication classroom.

Purpose of the Study

The purpose of this study was to improve instruction to increase student and teacher motivation by providing students the opportunity to engage in the problem solving process to solve student-identified campus or community problems to achieve the competencies of the Small Group Communication course. The study also sought to analyze the efficacy of combining PBL and Service Learning.

Rationale

Problem-Based Learning and Service Learning are both founded on Cognitive and Constructivist principles. Fundamental to these theories and pedagogies is that "Real learning involves moving from the Trivial Pursuit or Jeopardy type of factual or declarative knowledge to use-oriented knowledge, or in other words, from 'knowing what,' to 'knowing how,'" (Ryan & Cooper, 1998, p. 168). The purpose for the classroom "mini-democracy" was to produce good citizens that could function and enact social change in the larger community. Dewey felt that

students practicing civics, not learning *about* civics, was the only way to produce an involved citizenry. Dewey professed the "moral trinity of the school: the demand for social intelligence, social power, and social interests" (Morris & Shapiro, 1993, p. 104) and promoted the school, itself, as one of the resources. The school is a genuine community in which there is government and order, and in which the student can learn to serve. Dewey felt what was needed in education more than anything else was a "genuine, not merely nominal faith in the existence of moral principles which are capable of effective application…and translate the moral into the actual conditions and working forces of community life, and into the impulses and habits which make up the doing of the individual" (pp. 108-109).

A review of literature reveals both similarities and differences between PBL and Service Learning. They share a number of strengths. PBL and Service Learning both appeal to the multiple intelligences of learners and they both foster communication skills and critical thinking skills. The literature also indicates that each strategy is motivational to learners.

PBL and Service Learning, however, do not have in common a number of significant elements. Service Learning is not necessarily collaborative, though it is shown that Service Learning "teams" are more effective student placements than individual assignments. Service Learning also does not require that students engage in the problem-solving process. Most often, students are placed in agencies to perform short-term, charitable work. Only recently has Service Learning taken on the objective of civic involvement to solve community problems.

PBL does not have the pragmatic component of solving real-life problems, while Service Learning has the potential to be thoroughly authentic in this respect. PBL is also "safer" and more static than Service Learning. The dynamic learning experiences in Service Learning

involve taking risks and reaping bona fide consequences from entering new domains, becoming emotionally involved, and making life-changing commitments. Additionally, PBL is confined to the school environment and calendar, but, Service Learning goes beyond the classroom walls and into the future, providing ancillary advantages such as identifying new skills and interests, providing networking potential for career paths, and forming relationships and commitments on campus and/or in the community. Finally, PBL does not address the needs of the community, but rather, "solves" content-based, teacher-crafted, hypothetical problems for which the solutions are not actually implemented. Essential to John Dewey's pragmatic philosophy and educational practices was the goal of producing active and involved citizens, and traditional PBL is void of that purpose and result. This study focused on the resultant effects on students, the community, and the teacher-researcher of synthesizing PBL and Service Learning. The professional responsibility of this author (as teacher) to improve instruction, and the lack of written documentation of relating and combining these two pedagogies validated the impetus to undertake this study.

Research Questions

The research questions that drove this study were: (1) What are the effects on students' motivation when engaged in the process of PBL to perform Service Learning? (2) What other effects on students result from engaging in the PBL process to perform Service Learning? (3) What are the effects on the participant/researcher's motivation when engaging her students in the PBL process to perform Service Learning?

Significance of the Study

There are myriad problems in any community and on any campus that need identification and addressing. During the last twenty years, there has been a growing movement to return to the pragmatic educational philosophies of Thomas Jefferson and John Dewey. In *The Works of Thomas Jefferson* (1903), Jefferson affirms, "I know of no safe repository of the ultimate powers of the society by the people themselves, and if we think them not enlightened enough to exercise control with a wholesome discretion, the remedy is not to take it from them, but to inform their discretion by education." John Dewey asserted that the production of an active, democratic citizenry was the goal of public education (Mann & Patrick, 2000).

Community college students indicate a desire to begin or increase their involvement in community and campus, especially since the tragedies of September 11, 2001 (Gottlieb, 2002). Additionally, since that time, local non-profit organizations have been struggling more than ever with reduced manpower and donations due to the outpouring toward national relief efforts (Kelly, 2002). According to the author's survey of students at Estrella Mountain Community College in Spring 2002, and again in Fall 2002 (Appendix A), however, the students perceive a lack of opportunity, time, and other resources to become actively involved in community service.

There is strong documentation of the benefits of the PBL and Service Learning pedagogies. By combining the two methods, this study sought to add further insight to improve instruction, while pragmatically benefiting students (by providing them the opportunity to serve while simultaneously meeting course requirements) and improving the campus and/or community. The results are primarily important to the teacher-researcher for her own professional practices, but could also be valuable to educators at all levels and across disciplines

who are not engaging their students in either PBL or Service Learning, or who utilize only one of these.

Definition of Terms

The following terms are defined operationally as they were used in the study.

Action Research: A qualitative method of research common in educational settings that aims to solve problems and improve the educational process. Action Research can be theoretical, practical, and/or collaborative in nature.

Affective Domain: Feeling and attitude objectives viewed as hierarchical; with receiving and responding considered lower levels, and valuing, organization, and characterization by value considered higher levels.

Analysis: The third highest level of Bloom's taxonomy of thinking, characterized by breaking information into parts.

Application: The third lowest level of Bloom's taxonomy of thinking, characterized by using a general concept to solve a particular problem.

Characterization by Value: The highest level of Blooms feeling taxonomy, characterized by being firmly committed to, and acting consistently with, a value Charity: Short term, immediate assistance to the needy, e.g. donating money and/or other items, and/or working at an agency provider.

Civic Engagement: Commitment to, and active engagement in, democratic processes to improve the community.

Cognitive Domain: Memory and reasoning objectives usually viewed as hierarchical; with knowledge, comprehension, and application considered lower levels, and analysis,

synthesis, and evaluation (critical thinking) considered higher levels.

Collaboration: A philosophy and practice of interaction within and among groups where individuals are responsible for their actions, including learning and respect for the abilities and contributions of their peers.

Communication: The effective response to an audience (intrapersonally, interpersonally, collaboratively, and/or publicly) demonstrating a clear sense of purpose, organized information, and delivery of information using appropriate verbal or nonverbal language.

Comprehension: The second lowest level of Bloom's taxonomy of thinking, characterized by understanding knowledge, but not necessarily relating it to anything else.

Constructivism/Constructivist: A pragmatic learning theory that focuses on processes of learning rather than on learning behavior in which students use cognitive processes and interaction with others to construct meaning of the information—in contrast to the view that they *receive* information handed down from the teacher. Learning occurs from knowledge or concepts shaped from a person's prior experiences and social situations and interactions in which it is acquired. Constructivist theory supports the role of teachers as facilitators, with students being the center of instruction and curriculum, engaging in hands-on activity.

Course Competencies: Specific learning objectives for a course that have been established and articulated by school district personnel or other governing bodies.

Critical Thinking: Critical thought, processes, synthesis, and application of information to solve problems by identifying the problem, developing and implementing strategies, evaluating information, reaching conclusions, and responding to the problem.

Democracy/Democratic: A component of pragmatic methodology; associated living, conjoint communicated experience in which members of society share common interests and rely upon the recognition of mutual interests as a factor in social control, with free interactions between individuals and social groups, inclusion and appreciation of diversity, and changes in social habits for the common good as new situations arise that require readjustment.

Evaluation: the highest level of Bloom's taxonomy of thinking, characterized by judging the value of materials, information, methods, behavior, and results.

Experiential Learning: A component of pragmatic methodology; learning that considers students' interests, curiosities, and needs, and results in emotional and intellectual stimulation and construction of individual meaning that occurs when grounded in real-life experience and hands-on activity.

Extrinsic Motivation: The desire to engage in an activity as a means to an end. Individuals who are extrinsically motivated work on tasks for rewards, praise, or to avoid punishment. There is typically little interest in the activity itself, rather, the interest is in what it will provide or achieve.

Intrinsic Motivation: The motivation to engage in an activity for its own sake because it is enjoyable and provides satisfaction. Participation in the activity does not rely on external positive or negative consequences, but, rather, on the activity as its own reward.

Intercultural Competency: The ability to communicate effectively in cross-cultural situations and to relate appropriately in a variety of cultural contexts. Lower, ethnocentric stages of competency include Denial, Defense, and Minimization; higher, ethnorelative stages include Acceptance, Adaptation, and Integration.

Knowledge: The lowest level of Bloom's taxonomy of thinking characterized by remembering or recognizing something without necessarily understanding, using, or changing it.

Leadership: Verbal and nonverbal communication behavior that influences a team's transactional and task processes in achieving the members' and the team's needs and goals.

Learning Preferences: Preferred ways of studying and learning, such as concrete, sequential, abstract, random, or a combination of them.

Learning Styles: An individual's characteristic approaches to learning and studying, such as talking, listening, doing, or seeking.

Modalities: Channels through which learning occurs: visual, audio, tactile, and motor.

Multiple Intelligences: A theory by Howard Gardner that proposes that human beings possess at least eight intelligences, of which one or more is dominant. The identified intelligences are logical/mathematical, visual/spatial, interpersonal, bodily/kinesthetic, musical/rhythmic, intrapersonal, verbal/linguistic, and naturalistic.

Nonverbal Communication: The communication of information via kinesics (body language), haptics (touch), proxemics (distance and space), chronemics (use of time), paralanguage (voice), color, environment, appearance, and/or symbols.

Organization: The second highest level of Bloom's feeling taxonomy, characterized by integrating a new value into one's general set of values, giving it some ranking among one's general priorities.

Pragmatism/Pragmatic: An educational philosophy emphasizing the testing of ideas by acting upon them; educational practices that include the problem solving process, authentic and experiential learning, democratic processes, and civic awareness/involvement.

Problem: Anything that inspires a goal, e.g. a difficulty, a concern, a question, a task, a defect, a situation to be improved upon, an opportunity, a concept to be created, and/or a discrepancy gap.

Problem-Based Learning: An active teaching strategy that promotes learning through the collaborative "solving" of teacher-crafted, content-focused, hypothetical situations or scenarios.

Pygmalion Effect: The name, Pygmalion, comes from the title of the George Bernard Shaw play, in which others expectations concerning the heroine influenced how they perceives and treated her. The Pygmalion effect is a documented, though controversial, phenomenon in which teacher expectations can act as self-fulfilling prophesies because student performance reflects the expectations.

Receiving: The lowest level of Bloom's feeling taxonomy, characterized by being aware of or attending to something in the environment.

Responding: The second lowest level of Bloom's feeling taxonomy, characterized by showing a new behavior as a result of experience.

Self-efficacy: A person's thoughts, self-perception, and predictions about possible outcomes of his or her behavior regarding success.

Service Learning: A teaching method under which students learn and meet course competencies through active participation in thoughtfully organized service that is conducted in and meets the needs of a community.

Social Justice: Advocacy for principles of moral rightness; the quality of being fair or impartial, e.g. lobbying, petitioning, letter campaigns.

Social Transformation: A commitment to a different social order based on equality, justice, and freedom from oppression. Empowerment of those declared "needy" whereby "clients" are transformed into service providers.

Small Group Communication: Verbal and nonverbal communication and dynamics that occur between members of a small group of at least three persons. Effective small group communication requires particular skills and competencies (Appendix B).

Synthesis: The second highest level of Bloom's taxonomy of thinking, characterized by creating a new product or process by combining different ideas.

Valuing: The third highest level of Bloom's feeling taxonomy, characterized by showing some definite involvement or commitment to a new concept or practice.

Zone of Proximal Development: Vygotsky's learning theory regarding the amount of learning possible by a student given the proper instructional conditions, including teacher and peer modeling.

Assumptions and Limitations

It was assumed for this study that engaging students in the combined pedagogies of PBL and Service Learning would result in improved instruction that benefited the learners and the teacher-researcher, as well as improved campus or community situations. It was assumed that student responses to enquiry, journal entries, and comments during discussion and presentations would be honest. It was also assumed that the student participants were representative of the community college daytime population.

This study was conducted using the experience of one instructor with one class of 30 students during one half of a college semester (eight weeks). Besides the instructor-researcher,

the participants were limited to those students who enrolled into the instructor-researcher's Small Group Communication course. The study was also limited to a single community college site. The teacher-researcher and student participants were the sole observers during the study. The study was limited to three cycles of Action Research; and while the teacher-researcher throughout her career thus far had used elements of Action Research to improve instruction, she had not formally used the Action Research model in the classroom.

Summary

Constructivist teaching strategies are growing in popularity for their effectiveness in promoting critical thinking, communication skills, and achieving course competencies. PBL, a constructivist pedagogy, has shown merit for student learning, but the author's concern was that it lacks the pragmatism to sustain high motivation in students. Based upon the author's observations and student reactions, during and following a deviation from traditional PBL (when students underwent solving a real-life situation on campus using the PBL process), the author studied the effects on student and teacher motivation when Service Learning, another Constructivist approach, was connected to PBL. The purpose of the study was to improve instruction by offering the pragmatic learning opportunities to students, while engaging them collaboratively in the problem-solving process to meet course competencies. The participants in the study included the teacher-researcher and those students who were enrolled in her Small Group Communication courses during the Fall 2002 semester at Estrella Mountain Community College.

The following chapters of this dissertation include a comprehensive review of the literature on PBL, Service Learning and motivation in Chapter 2. In Chapter 3 explains and

details the qualitative methodology used in the study, Action Research. The collected data is presented, analyzed, and interpreted in Chapter 4. Finally, Chapter 5 summarizes the study, presents conclusions, and makes recommendations for future study.

CHAPTER 2. LITERATURE REVIEW

Public education in American was profoundly influenced in the early 1900s by the philosophy and practical research of John Dewey. In a country rapidly integrating with immigrants from all over the world, and of all social classes, Dewey challenged the traditional, exclusive opportunities for education, and valued democracy in and out of the classroom. He discounted expository methods of delivery of instruction in favor of active and experiential learning, contending that neglect of the principles of muscular development and sensory stimulation, and use of passive, receptive, or absorbing activity is "the cause of a large part of the waste of time and strength in school work" (Hickman & Alexander, 1998, p. 233). This belief, and Dewey's vision for a well educated, and civicly engaged society, led to his Pedagogic Creed (1897):

> I believe that the individual who is to be educated is a social individual and that society is an organic union of individuals. If we eliminate the social factor from the child we are left only with an abstraction; if we eliminate the individual factor from society, we are left only with an inert and lifeless mass. Education, therefore, must begin with a psychological insight into the child's capacities, interests, and habits. It must be controlled at every point by reference to these same considerations. These powers, interest, and habits must be continually interpreted—we must know what they are. They must be translated into terms of their social equivalents—into terms of what they are capable of in the way of social service. (p. 230)

Dewey's ideas of combining active learning strategies and meeting the needs of society are resurfacing in education today (Fogarty, 1997). With the advent of Constructivist theory in the 1990s, active learning strategies and problem solving are replacing or embellishing lecture. With the resurgent interest in, thrust toward, and support of community service, educators are providing opportunities in and out of the

classroom for students to learn while serving the community—the embodiment of Deweyan Pragmatism.

This chapter presents a review of the literature on the elements of PBL and Service Learning, and their benefits and limitations. Additionally, current literature on motivation is reviewed as it relates to teaching and learning.

The Pedagogy of Problem-Based Learning

Pragmatism's view that life requires the ability to solve problems, and that problems can also serve as a stimulus for learning and thinking is the basis of PBL. Cognitive researchers suggest that the teacher needs to assume the role of "coach" to help students develop complex understanding and thinking skills; therefore choosing problem-solving experiences that help students develop component skills, such as writing and speaking, is an important implication for education. Additionally, experiencing the process, rather than memorizing the process or the content, is a pragmatic aspect of PBL. Finally, the collaborative learning experiences in PBL have inherent articulations with small group communication competencies (Appendix B), which make it an attractive and legitimate pedagogy in the small group communication classroom setting.

PBL is an active, student-centered teaching strategy that educators recognize and practice for its promotion of learning through collaborative problem solving. This Constructivist teaching model helps students learn to think and solve problems, competencies frequently not acquired in traditional college course work (Edens, 2000). While many instructors hold strong views on what counts as PBL, there is no universal definition. Typically, the process involves students working collaboratively in small groups to solve problems based upon real life

situations. PBL is implemented differently at different schools and "problem first learning" may be a better term for this approach (Albanese & Mitchell, 1999, p. 52). This section will briefly explore the elements, benefits, and limitations of PBL.

Elements of PBL

While PBL may appear in different forms, the variations have a number of common elements regarding the process and the roles of the problem, teacher, and student. The process begins with a problem that connects with the student's world. The problem to be solved is "ill-structured," meaning that it is "messy" and complex in nature. The problem should have insufficient information, unconfirmed and/or unconfirmable information, and it must be ambiguous so that more information is sought. The problem requires inquiry, information research, and reflection. The problem is also dynamic and tentative, and has no simple, fixed formulaic, "right" solution. Fundamental to problem selection is that it appeal to the learners for resolution, stasis, harmony; i.e., it is something the learners are motivated to solve or address (Ornstein & Levine, 2000). Subject matter is organized around the problem, rather on around the disciplines.

Students are given the major responsibility for shaping and directing their own learning, and small teams make up the context for most of the learning in PBL. Collaborative exploration, discussion, and decision-making in small groups require the student to be an active researcher, communicator, and critical and creative thinker. The student is continuously engaged in the intriguing problematic situation. As the student is facilitated and coached, he or she is empowered to search for answers and make individualized meaning from the learning. The student learns the problem-solving skills through discovery, and eventually becomes a self-

directed learner and problem solver. The student is authentically assessed and provided feedback on performance, and the student is expected to demonstrate transfer of learning to other situations (Ormrod, 1999). Traditionally, the role of the student does not include selecting or constructing the problem to be solved.

There are varying viewpoints regarding the role of the teacher in PBL. One perspective is that the teacher is a triad of curriculum designer, guide, and evaluator (Delisle, 1997). Another viewpoint is that the teacher is dynamic and evolving during the PBL process—from the initial presenter of the problem, to the presenter of the problem-solving "heuristics," moving into the role of a cognitive coach, and ending with the facilitation of problem solutions (Torp & Sage, 1998). Basic to all viewpoints is that of the teacher being the "guide on the side" rather than the" sage on the stage." During the PBL process, teachers ask, probe, and challenge students about their thinking and learning, monitor and adjust the level of task challenges, keep the process moving, monitor learning, keep students involved, and manage group dynamics (Leary, 2000).

Current Literature on the Benefits of Problem-Based Learning

The advantages of using PBL in the classroom are numerous: PBL is motivational, meaningful, authentic, and drives an "intelligence-friendly" classroom (Fogarty, 1997, p. 2). Most importantly, PBL promotes cognitive learning and mirrors the predominant paradigm in current business and other career practices—the collaborative solving of problems using critical thinking and effective communication skills (Pope, 2001).

Motivation

PBL promotes motivation in learners because humans are "hard wired" to respond to dissonance, and when students are empowered to have an impact on the outcome of the

investigation and know they will be implementing the solution to resolve the dissonance, the motivation increases geometrically (Leary, 2000). Another factor in motivation is the autonomy and power granted students in their self-directed studies (Ormrod, 1999). Community college student satisfaction with the PBL process and environment, learning for understanding as opposed to short-term recall, clinical knowledge and preparedness, is significantly higher than the traditional teacher-centered approach to instruction (Bridges, 1997; Leary 2000).

Meaningfulness

PBL addresses issues of relevance and context and provides meaningful rationale for learning. Students are either "scaffolded" toward meaning during the initial presentation of the teacher-crafted ill-structured problem, or their investigations are centered on real-life problems that the learners have a stake in (Woolfolk, 1998). There are significant findings that students, previously uninterested in school work, began exploring questions on their own, talked at home about their endeavors, and were excited about having solved important problems that were meaningful to them (Sage, 1997). Community college students also appreciate the active learning structure that taps their diverse backgrounds (Leary, 2000).

Authentic Assessment

PBL makes learning more authentic because it is similar to the ways in which information will be recalled and used in future situations. The learning is assessed in ways that demonstrate understanding and not mere acquisition. Students also learn better and remember longer when the learning is active. In PBL the learners discuss information, relate it to what they know, and receive new information presented in the context it will be used (Norman & Schmidt,

1998). In addition to the learning content, the value of the process, performance, and product are also evaluated (Leary, 2000).

Multiple Intelligences

> PBL also promotes an intelligence-friendly classroom.
>
> If we know that intelligence is emotional, then it just makes sense to use visceral hooks. If we know that intelligence is nurturable, then it just makes sense to create robust environments. If you know that intelligence is experiential, then it just makes sense to provide tools for the mind…and challenge through doing. If we know that intelligence is multiple, then it just makes sense to target many dimensions. If we know that intelligence is elusive, then it just makes sense to vary the ways we measure it. (Fogarty, 1998, p. 79)

PBL is a practical answer to intelligence theories. As the PBL process develops from concrete problems to creative solutions, so does the learner's intelligence develop from concrete to abstract, thereby exemplifying Piaget's (1952) theory. Vygotsky's (1978) theory of social mediation requires components of activity via material and psychological tools, and social interaction, the very core of PBL requirements. Feuerstein's (1980) theory of structural cognitive modifiability promotes experiential learning with guidance—PBL is always an experiment with guidance from teacher and peers. PBL has been proven to increase transfer of learning, which facilitates subsequent learning, fitting Perkin's (1985) theory of learnable intelligence (Fogarty, 1998). Goleman's theory of emotional intelligence touts the importance of social skills and self-regulation—requirements of Problem-Based learners (Goleman, 2000).

Each of those intelligence theories can be addressed in the PBL classroom, depending on the problem to be solved. PBL utilizes formal reasoning; utilization of the written and spoken word; perceptive ability; physical movement; self-reflection and self-evaluation; one-on-one

communication; and the learner's ability to be comfortable in, and make use of his or her natural environment (Collins, 1998).

As educators, being intelligence-friendly means that one must create a sense of safety—both physically to accommodate movement and emotionally to encourage risk-taking and foster trust. The environment is interactive and learner-centered. "Mind tools" and life skills are taught through experience, practice, and coaching. The learning is evaluated in varied and authentic manners, and is transferred to other learning situations (Fogarty, 1998).

Collaborative Problem Solving

According to M. Dean Pope, recently retired Vice-president of Dresser Industries, a Fortune 500 company, the way businesses operate today is to solve their problems in teams. In fact, his contention is that the business of business *is* the solving of problems, and that rarely do the best solutions come from one individual.

> "When hiring for, or promoting to, lower, middle or upper management, teamwork experience and problem-solving are the top criteria. The ability to work through the problem-solving process to arrive at affordable and realistic solutions means profit and success. Collaborative, interpersonal and critical and creative thinking skills are highly valuable." (Pope, 2001)

Using PBL in the classroom provides the learners with exactly those experiences and builds those skills.

Communication Skills

In addition to fostering critical thinking, PBL is a highly effective method for students to acquire or hone communication skills.

> You may love working in groups, or you may hate it. Whichever way you feel, you can be certain of two things: First, you have company because teamwork can be both gratifying and mind-boggling. Second, no matter how you feel, you *will* work in groups and teams extensively… in your life and in your career. (Lumsden & Lumsden, 2000)

Today, communication skills and the ability to work in diverse groups—diverse in background and ability--are requisite for any graduate seeking at least middle class employment (Murnane & Levy, 2000).

Collaborative and interpersonal communication are inherent in every PBL lesson. PBL teams or groups are more than the sum of their parts; with several people interacting, communication among members multiplies in complexity. Members need strong verbal and nonverbal communication skills to make their ideas clear, to understand others, to build a team, and to work together through the task processes of collaborative problem analysis and decision-making. Group members engage in group dynamics, discussion, sharing, analysis, and evaluation of information. Additionally, public communication skills are developed when the groups' findings are presented to the whole class or other audiences as forums, symposiums, seminars, or panels (Lumsden & Lumsden, 2000).

More than conversation, turn-taking, or pseudocommunication, true group communication during PBL is not random, but purposeful interaction, necessary to problem resolution. One type of purposeful communication in problem solving is when group members contribute to group orientation by initially engaging in risk-taking behaviors such as idea suggestion or questioning. Successful problem-solving discussions occur more frequently when the group members are willing to take communication risks as they move to seeking information, maximizing ideational conflict, and separating people, ideas, and criticism. Additionally, effectively analyzing and evaluating solutions based on agreed-upon criteria is the epitome of good group communication (Cragan & Wright, 1999).

Another type of purposeful communication that occurs during PBL is listening—both empathetic and critical. As important as the delivered message is the understanding of that message by the other group members. Empathetic listening is a skill that helps to ensure understanding, and is practiced through paraphrasing and asking for clarification. Critical listening is the skill practiced during PBL to evaluate messages for accuracy and ethics (Cragan & Wright, 1999).

Three dimensions of communication that also improve through the PBL process are frequency, distribution, and content of the interactions (Cragan & Wright, 1999). As group members become more comfortable in risk-taking, and as they become engrossed in the process, their frequency of verbal contributions increases significantly. Likewise, the communication becomes more evenly distributed among the members; one or two members do not dominate the communication. Additionally, as in the critical thinking, and subsequent problem-solving progress, the content of the communication improves in quality.

Finally, another important aspect of communication skills that PBL hones is its transferability to other contexts and environments (Lumsden & Lumsden, 2000). Communication skills that are learned and practiced in the classroom are also effective at home, in the office, on the team, and in the club.

Cognitive Learning

The cognitive domain of learning is the ability to think. Bloom (1956) defined this aspect of learning with a taxonomy of thinking, with knowledge, comprehension, and application being the lower levels, and analysis, synthesis, and evaluation the higher levels (Woolfolk, 1998). Critical thinking is a highly valued practice today, not only in the college classroom, but also in

work and career environments. Employers expect their people to be able to think critically, and society needs citizens who can think critically. Facione (2000) expresses the pragmatic importance of competent critical thinking: Critical thinking has been considered "integral to business and economic success in our global economy, necessary for responsible democratic citizenship, and a vital part of professional practice in a wide variety of occupations" (Harper-Marinick, 2001, p. 4). It follows, then, that critical thinking should be a crucial ingredient in curricula and a prevalent pedagogical paradigm.

Critical thinking is at the heart of effective reading, writing, speaking, and listening, all intrinsic in PBL. It enables students to link together mastery of content with such diverse outcomes as, self-discipline, multicultural education, effective cooperative learning, and problem solving. It also enables all instructors and administrators to raise the level of their own teaching and thinking (Woolfolk, 1998). Most educators argue that critical thinking is a form of intelligence that can be taught. Robert Sternberg (1993) contends that teaching a person to think involves a holistic approach, much like teaching someone how to swing a golf club or tennis racket. Matthew Lipman (1984), a proponent of the metacognitive process, asserts that critical thinking skills are acquired individually or collaboratively through exploration, analysis, and evaluation. PBL has been found to be more effective than other modes of instruction for higher-level thinking tasks (Ornstein & Levine, 2000).

"We know that we all think, and, as some assert, we are natural problem solvers" (Harper-Marinick, 2001), and collaborative problem solving is inherent in PBL. Learning activities that promote higher-order thinking are writing, journals, questions, collaboration, discussions, and projects. Especially considering the strategies of questioning, collaboration,

discussions, and projects it is easy to see that the PBL process engages students in higher-order thinking. It requires both critical and creative thinking which the teacher coaches toward deeper levels of understanding. While critical thinking is an inherently human process (not discipline-specific), students should be presented with discipline-specific situations to sharpen their individual ways of coming to know and judge (2001). PBL does just that. Paul (2000) expresses "...much of our thinking, left to itself, is biased, distorted, partial, uninformed or down-right prejudiced" (Harper-Marinick, 2001, p. 4). This supports the value of the collaborative process in critical thinking and decision making inherent in PBL activity.

With the help of teacher questioning strategies, the thinking skills also move into metacognitive areas such as "learning how to learn," "thinking about thinking," and self-regulated learning (Leary, 2000; Torp & Sage, 1998), During PBL activities, the teacher can model metacognition by thinking aloud about his or her thinking. The teacher can also facilitate student metacognition by asking them questions orally, or providing prompts for writing or online discussion.

PBL does not stress "right" answers, but rather, emphasizes the processes that encourage problem solving. Students must demonstrate "declarative knowledge," the facts, "procedural knowledge," knowing how to do something, and "conditional knowledge," knowing when and why to apply the declarative and procedural knowledge (Woolfolk, 1998). Critical thinking in the classroom should not be thought of as a separate program, but an activity that can be integrated into all disciplines so that students are continually challenged to develop an inquiring attitude and critical frame of mind. PBL fosters that state of mind, and is easily integrated into the humanities, liberal arts, and sciences (Ornstein & Levine, 2000).

Limitations of PBL as it Relates to Service Learning

The author found no current literature on the limitations of PBL as it directly relates to Service Learning; however, based upon the characteristics of each pedagogy, the following analysis is presented regarding this issue. PBL has limitations in its engagement of students in critical thinking and in pragmatic endeavors.

While the PBL method encourages critical thinking, it does not address two aspects of critical thinking as defined by EMCC. PBL does not provide for students *identifying* the problem(s) or *implementing* strategies to solve the problem(s). Teachers are trained in the writing of hypothetical problem scenarios for their students to undertake, or they use problems written by others. Some trainers provide tables and charts for problem generation (Delisle, 1997). The benefits of allowing students to experience the identification of problems for themselves is supported by Brown and Walter (1990), Hibert, et al (1996), Perkins and Simmons (1988), Porter (1989), Resnick, Bill, Lesgold, and Leer (1991) (Ormrod, 1999). There is also a body of theorists who vehemently disagree with the teacher "controlling knowledge" by crafting the problems to be solved, and question the authenticity of the process because the problems are hypothetical (Fenwick & Parsons, 1998).

Additionally, no literature was identified producing data regarding learning in the affective domain while engaging in PBL, a strength of Service Learning (Hesse, 2001).

Finally, while learning through PBL can transfer to other real-life situations, the PBL process itself does not directly lead to the maintenance of a strong democracy through civic involvement, the solving of real-life problems and social transformation (Leary, 2000; Oakes, 2001), which are the authentic, motivational, and pragmatic outcomes of Service Learning.

The Pedagogy of Service Learning

Service Learning has been termed an " 'education common'—a pedagogical meeting place whose origins and principles are shared by a wide range of American and international cultural communities" (Kielsmeier, 2000, p. 652). Service Learning has developed over the past century in its motivations and practices from involvement in volunteerism to active civic engagement. The picture of Service Learning today is vast and eclectic: manning a thrift shop, beautification projects, reading to the blind, fund raising, voter registration drives, issue forums, crime fighting, petitions, initiating law, and even running for office. This section will present the literature defining the process and common elements of Service Learning, and the benefits of this pedagogy. As with PBL, there are many aspects of Service Learning that have legitimate enhancing prospects of the Small Group Communication course competencies (Appendix B)

Elements of Service Learning

While the elements of Service Learning can vary greatly, the focus of Service Learning is twofold: providing service to others, and connecting the service experience to learning goals. The process of Service Learning generally include selecting a setting and/or partner for the project, performing the service, and engaging in reflective thinking, writing, and/or presentation about the experience and the learning (Fogarty, 1997). The duration and total time of service vary according to instructor expectations; some placements are for the entire semester, and others are one-day commitments (Hesse, 2001).

In Service Learning, the role of the student is to commit to, and actively take part in, the appropriate service tasks, and to demonstrate academic learning. The teacher's role is to provide the expectations and structure for learning to occur. The teacher targets, facilitates, and assesses

the learning outcomes. Depending on the amount of existing program support; the teacher, alone, might have to initiate all contacts and coordination with service agencies or event personnel; in contrast, schools with staffed and funded Service Learning departments provide that service to the teacher. Some instructors perform the community service alongside of their students (Hesse, 2001).

Current Literature on the Benefits of Service Learning

The benefits of Service Learning to both learners and community are vast and significant, such that many educators and government leaders believe it should be a required component in the educational career of all students (2000). From the preamble to the Wingspread Report, *Principles of Good Practice for Combining Service and Learning:*

> We are a nation founded upon active citizenship and participation in community life. We have always believed that individuals can and should serve…Service, combined with learning, adds value to each and transforms both. Those who serve and those who are served are thus able to develop the informed judgment, imagination, and skills that lead to a greater capacity to contribute to the common good. (Mann & Patrick, 2000, p. 45)

Charles Dickens encouraged that "No one is useless in this world who lightens the burden of another" (Fogarty, 1997, p. 101). The benefits of Service Learning are reciprocal between the learner and the community; learners meet the needs of the community, and in doing so, learner needs are also satisfied.

Fundamental to the Service Learning experience is that service learners immediately sense the authenticity and importance of their work. Service Learning counters student malcontent from their perceptions that there is no connection between real life and what they learn in school (Mann & Patrick, 2000). Robert Coles, of Harvard University offers, "Students need the chance to directly connect books and experience, ideas and introspection, to continuing

activity in the community" (Hesse, 2001). Students' participation in community-based organizations is accompanied by educational efforts aimed at "thickening those bonds of connectedness" (Mann & Patrick, 2000, p. 35) formed by such participation with service providers. The affects on students resulting from those qualities of Service Learning are affective learning, pragmatic benefits, and intercultural competency. There are also reciprocal benefits to the campus and community, resulting from students engaging Service Learning.

Affective Learning

"Students don't just learn…they feel" (Hesse, 2001). This feeling component relates to learning in the affective domain. The affective effects of Service Learning include the building of relationships, attainment of new perspectives, commitment to new values and behaviors, and achievement of personal fulfillment and growth. While engaging in Service Learning, students commonly form relationships with peers and those involved in the organization or project. A "learning community" (Tinto, 2002) often forms, within which students interact democratically with each other and in service to others. Service Learning is all about inclusion, where all participants have an innate need for, and receive, belonging and caring (Maslow, 1968) becoming "total human beings" (Ornstein & Levine, 2000, p. 461; Rogers, 1994). Motivation theory includes both the significance of interest in the desire to learn, and a common theme expressed by service learners that, "Service Learning is fun" (Hesse, 2001). A study by Giles and Eyler (1994) showed that motivation to perform Service Learning has been shown to be longitudinal beyond the duration of the course as a result of improved self-efficacy when students realize they can successfully assume leadership and make a difference (Hesse, 2001).

Another affective result of engaging students in Service Learning is moving students out of their comfort zones of their typical social world of family and friends, and into new domains. When students question public issues, attitudes, and behavior, they take risks. Risk-taking is a learning tool because students apply knowledge, analyze experiences, and evaluate results. Exploration of topics such as inequality, injustice, racism, and corruption help students comprehend change and social situations. Bridges between theory and practice are built as students test the theories to life experiences and engage in problem solving. These active and authentic learning experiences teach students content and processes in a meaningful and emotional context. Students achieve a greater understanding of course content, greater achievement of course competencies, and greater appreciation for previously unfamiliar domains (Hamner, 2002). While initially uncomfortable when moving into the new domains, students eventually feel positively about their experiences (Oakes, 2001).

Learning Styles and Multiple Intelligences

Like PBL, Service Learning is a valid and valuable pedagogy additionally because it addresses the needs of a variety of types of learners. Aligned with the literature on Service Learning, a questionnaire survey (Appendix A) conducted with the author's communication students during Spring 2002 and Fall 2002 showed that virtually all students who had engaged in Service Learning were satisfied that the experience suited their learning styles or learning preferences. Service Learning is also a natural fit for the multiple intelligences classroom (Fogarty, 1997; Woolfolk, 1998). These intelligences rarely work in isolation, and because Service Learning is a holistic learning model, the intelligences are interrelated: Service learners may use their logical/mathematical intelligence to think through problematic situations;

visual/spatial intelligence to visualize unfamiliar contexts; interpersonal intelligence to empathize with those in need; intrapersonal intelligence to thoughtfully reflect on their learning; bodily/kinesthetic intelligence to physically immerse themselves in the experiential learning process; musical/rhythmic and verbal/linguistic intelligences to depict moods and tones of a situation and be able to write, listen, and read about related issues; and the naturalist intelligence to be comfortable in the natural surroundings of the project and be able to classify and organize objects and living things, and share that information with participants (Fogarty, 1997).

Cognitive Learning

Within the Service Learning paradigm, reflection is the key to enhancing student learning because it makes connections between individual experience and theoretical understanding (Lott & Michelmore, 1997). The *learning* in Service Learning is accelerated through reflective strategies, such as journal writing, class discussion, small group processing, oral presentations, formal essays, and final debriefing. These activities heighten students' communication skills, promote metacognition, and reinforce assimilation of course content and achievement of competencies (Mann & Patrick, 2000). During the Service Learning project, students record observations, thoughts, feelings, questions, suggestions, and other data for later analysis and evaluation relative to course content. Various formats for collecting data include journals, logs, charts, and other visual organizers. An important catalyst for learning is reflective writing that is authentically assessed using tools that evaluate predetermined criteria and standards.

Furthermore, Service Learning benefits students because the learning is not finite—it transfers to later-life personal and professional situations giving students ancillary advantages. When engaging in service, learners often discover they possess talents and skills of which they

were previously unaware. Service Learning can provide networking opportunities for future employment, and hands-on experience that facilitates the selection of career paths. Potential employers appreciate the commitment that Service Learning requires. Because difficulties or problems naturally occur in real life endeavors, the service learner gains experience in problem solving and develops coping strategies, providing an advantage in the workplace. Service Learning also develops leadership skills when service learners learn about, and participate in, the workings of organizations and engage in decision-making. Service Learning experiences hone interpersonal skills as students deal with team members, authorities and clients. Service Learning is not an independent activity, in fact, Batistoni (2000) contends that it is best done by organizing students into service teams, as opposed to individual placements; goal setting, team building, consensus building, and handling conflict are inherent skills practiced in collaborative Service Learning (Hamner, 2002; Mann & Patrick, 2000).

Pragmatic Benefits

One practical benefit to students by offering Service Learning in school is that community service and/or civic involvement are course requirements, and often take the place of traditional assignments and homework. In "Service Learning, when done well, the students will do as much work as they would for a traditional assignment" (Loschert, 2001, p. 7). In this modality, it is not always an additional time commitment. Some Service Learning projects can even take place during class time. Additionally, while some civic qualities can be learned in private spheres like the family, workplace, or church, "it is *schools* that provide that unique environment to balance the development of individuality, autonomy, confidence, and knowledge with the strengthening of the public self through dialogue, decision making, and cooperative

learning" (Patrick & Mann, 2000, p. 30). Dewey recognized almost a century ago that public schools offer the best institution available to society for pragmatically shaping and training students to be involved citizens, and today educators are increasingly recognizing their important role in preparing their students to better society.

Nationwide, sixty percent of college and university students who perform at least thirty hours of Service Learning in one semester continue to volunteer in the future (Hesse, 2001). Service learners benefit from an increased sense of responsibility and caring to help those in need and/or champion for social change (Oakes, 2002).

Intercultural Competency

The attainment of intercultural competency is one of the greatest ethical outcomes of Service Learning (Carter, 2002; Hamner, 2002). Students "develop tolerance, respect, and empathetic understanding" (Fogarty, 1997, p. 102). Intercultural communication is becoming increasingly important and necessary in society (Bennett & Bennett, 2002). Inherent in Service Learning is learning about and experiencing diverse peoples and cultures, and developing intercultural communication abilities (Fogarty, 1997; Gamble & Gamble, 2002). When students perform Service Learning they become integrated into new and different cultures; this exposure to, and partnership with people unlike themselves, moves students into higher levels of intercultural competency. Students move from ethnocentric to ethnorelative stages, recognizing the universality of ethnocentrism and valuing what other cultures have to offer (Bennett & Bennett, 2002).

Campus and Community Benefits

Margaret Mead counseled, "Never doubt that a small group of thoughtful committed citizens can change the world; indeed, it is the only thing that ever has" (Hesse, 2001). Change is a fundamental goal and benefit of Service Learning. The local community, as well as the campus community transform when students engage in Service Learning. Change is the element that takes Service Learning from being practical and convenient, to being pragmatic and transformational.

Three themes stand out regarding the impact of Service Learning efforts on campus and in the community: "The work of the students was seen as valuable by the community agencies that the young people worked with," "Service Learning was seen as strengthening the relationship between school and community, promoting a more positive attitude toward young people and schools," (Melchior, 2000, p. 29) and benefits to the campus include the improvement of classroom instruction (Loschert, 2001), thereby improving student retention and satisfaction (Furco, 1996). The work of Service learners is considered significant and valuable to the community for a number of reasons. Ninety percent of agencies interviewed in a study by Melchoir (2000) reported that Service Learning participants had helped their agencies improve services to clients, and nearly seventy percent said their agency's capacity to take on new projects had increased. Other benefits to the community include: augmented service delivery, increased human resources for problem solving, increased access to college resources, increased ability to hire good students, more contributions to meet human needs, increased future citizen support and commitment, and improved college/community relations (Carter, 2002; McAleavey, 2001).

In the Melchior (2000) study, half of the community agencies acting as partners with service learners said their participation had produced new relationships with the public schools, and two-thirds indicated a fostering of more positive attitudes toward the schools. Eighty two percent reported that the service learning experience had helped participants to develop more positive attitudes toward youth in the community. When the students were involved in providing education-related services, such as tutoring and teacher assistance, seventy five percent of their service sites reported that the students had been instrumental "in raising skill levels, engagement, and self-esteem of the young people being assisted" (Melchior, 2000, p. 30). Sixty five percent of programs or agencies serving the elderly or providing health-care support reported that Service learners had helped "improve the mood, morale, and quality of life of elderly residents." (p. 31). Virtually all agencies reported that they would use the services of students again (2000).

It behooves educational institutions to have their students engage in Service Learning. The partnerships formed with community agencies, local government, and neighboring schools broadens the conception of the role of education. Learning opportunities expand from the classroom to the campus. Students are leadership, support, and creative resources for campus events, problem solving, mentoring and tutoring, and recruitment and marketing. The resultant student satisfaction, achievement, and development of self-efficacy lead to retention. Students are also better prepared for work and transfer to upper grades and senior institutions (McAleavey, 2001).

Finally, Service Learning benefits the campus community because it improves teaching. Service Learning does not change what is taught—it changes the way it is taught. Instructors using Service Learning pedagogy report they are the recipients of benefits, as well as the students

and community. They are motivated to take risks, form relationships with students, use alternative forms of assessment, and keep abreast of new trends, paradigms, and practices (Loschert, 2001). As co-learners with the students, they grow professionally. Service Learning instructors also reported becoming more involved in community service, shared governance on campus, and civic participation, making them role models for their service learners (Oakes, 2002). Considering the importance of the instructor in making learning happen, these benefits act to solidify the teaching and learning experience.

Limitations of Service Learning as it Relates to PBL

The author found no current literature on the limitations of Service Learning as it directly relates to PBL, however, based upon the characteristics of each pedagogy, the following analysis is presented regarding this issue. Two aspects of PBL that do not necessarily occur in Service Learning are the problem-solving and higher level thinking processes, and collaboration.

Most often, Service learners are placed in agencies or at to complete work events to perform short-term, charitable work (Oakes, 2002). The student is assigned work (e.g. the serving of food at a soup kitchen or answering telephones) that may not, require identification of problems and implementation of solutions. Only recently, and in limited cases, has Service Learning taken on the objective of civic involvement to solve community problems. Though the movement in Service Learning to enact social transformation is growing, it is not necessarily a requirement by teachers or Service Learning programs (Hesse, 2001).

Another limitation of Service Learning is that it is not necessarily a collaborative (with classmates) effort, as is PBL, though it is shown that Service Learning "teams" are more effective student placements than individual assignments (Hamner, 2002).

Approaches to Motivation

The motivational benefits of engaging in PBL and Service Learning (as exclusive strategies), as opposed to expository instruction, are well documented. The problem that this study addresses itself to, however, is the waning of motivation observed when extensively using PBL. Motivation is a critical quality that pervades all aspects of teaching and learning. The exploration of motivation is vastly complex and holds the key to student achievement. This section discusses the literature on various aspects of motivation related to teaching and learning.

There are four general approaches to motivation in educational settings that consider the extrinsic and/or intrinsic causes for behavior, thoughts, and feelings: Behavioral, Humanistic, Cognitive, and Social Learning. Derived from the work of B.F. Skinner (1953), Behavioral approaches exclusively use extrinsic motivation in the form of reinforcers, rewards, incentives, and punishers to motivate behavior in students. A. H. Maslow (1968, 1970) and Carl Rogers (1994) proposed the Humanistic view as a reaction to behaviorism. Humanistic perspectives emphasized intrinsic sources of motivation, such as a person's needs for acceptance, belonging, self-actualization, and the power of self-determination. Bernard Weiner (1986) and Martin Covington (1987) emphasize the thinking process and the need to understand in their Cognitive approaches to motivation, placing emphasis on personal beliefs, attributions for success and failure, and expectations, as intrinsic causes of motivation. Social Learning perspectives on motivation combine extrinsic and intrinsic causality. Albert Bandera (1986, 1997) proposes the value of both goals, and the expectancy of reaching goals, as primary and necessary factors to create motivation (Pintrinch & Schunk, 2002). The approaches to motivation lead directly to theories that influence teaching and learning.

Current Literature on Theories of Motivation

The scientific study of motivation requires guiding theoretical principles. Derived from the above four approaches to motivation are a number of educational theories that inherently influence classroom practices: Needs Theory, Goal Theory, Attribution Theory, Social Theory, Interest Theory, and Reciprocal Theory.

Needs Theory

Based in Humanism, Needs Theory emphasizes the role of human needs in motivating individuals to act. Murray (1938) and Maslow (1954) were the leaders in developing classifications of needs to explain the behavior of humans. According to Murray:

> A need is a construct, which stands for a force in the brain region, a force that organizes perceptions, apperception, intellection, conation, and action in such a way as to transform in a certain direction an existing, unsatisfying situation. A need is sometimes provoked by internal processes of a certain kind…but, more frequently by the occurrence of one of a few commonly effective press. Thus, it manifests itself by leading the organism to search for or to avoid encountering, or when encountered, to attend and respond to certain kinds of press. (Pintrinch & Schunk, 2002, p. 193)

From a motivational point of view, this definition asserts that needs are the basis of all behavior. Unfulfilled needs create a discrepancy gap tension, or homeostasis, and motivate individuals to approach or avoid behavior to release the tension to satisfy the need.

Maslow's hierarchy of needs is another humanistic theory focused on human growth and development. He classified needs into five general groups: physiological needs, such as hunger, thirst, and sexuality; safety needs, such as security and protection from pain, fear, anxiety, and disorganization, as well as the need for shelter, dependency, order, lawfulness, and rules of behavior; needs for belongingness and love, including affection, social acceptance and identity; esteem needs, such as need to achieve, gain approval and recognition; and self-actualization

needs, such as growth through the realization of one's potential and capacities. Maslow theorized that the categories are hierarchical, with lower (the physiological) needs and higher (self-actualization) needs. Also inherent in the hierarchy is that lower needs must be satisfied before one is motivated to satisfy higher needs (Pintrich & Schunk, 2002).

The humanist, Carl Rogers (1969) stated, "I become very irritated with the notion that students must 'be motivated' by teachers" (Pintrich & Schunk, 2002, p. 42). He contends that motivation is intrinsic because the environment is rife with challenges, and students are curious and eager to discover and learn, therefore Rogers places more importance on the environment to stimulate internal needs. He theorizes that providing student freedom and choice facilitates the motivation to learn from the environment, and the focus of teaching (he prefers the term "facilitating") should be on helping students strive for challenges and maximizing their potential in experiential situations.

Building on this theory, Rogers and Freiberg (1994) promote the motivational value of the meaningfulness and relevance when students are faced with real problems in life. Schools can be "insulated from dilemmas" (p. 186) so it becomes important for students to be allowed to become involved in circumstances that present problematic situations and facilitate the opportunity for them to meet those challenges.

Goal Theory

While the humanistic emphasis on needs is closely related to goals, Goal theory is cognitive in nature. Pintrich and Schunk (1996) define motivation as "the process whereby goal directed activity is instigated and sustained" (Silverman & Casazza, 2000, p. 92). A goal is defined as what an individual is striving to accomplish (Woolfolk, 1998). In the study of

motivation, Goal theory differentiates between performance goals, mastery goals, proximal goals, and distal goals, and considers the specificity and difficulty of, and commitment to the goals.

A performance, or ego, goal orientation focuses on competition to demonstrate competence in comparison or contrast to others. Trying to exceed normative performance standards, being the best in the class, and seeking recognition for high performance levels are examples of performance goals. These goals motivate extrinsically and do not include value for critical thinking, problem solving, or metacognition (Silverman & Casazza, 2000; Woolfolk, 1998).

Mastery goals, on the other hand, are oriented toward self-improvement without regard to others. Learning and mastering the task according to self-determined criteria are the intrinsic motivators, and making mistakes is considered part of the learning process. Research on goals has shown that mastery goal orientation enhances learning through deeper understanding and metacognitive processing. Mastery goals are also linked to increased motivation (Silverman & Casazza, 2000).

Proximal goals are those that can be accomplished in a relatively shorter period than distal goals. Proximal goals are more motivating because progress is readily experienced and feedback is more immediate and consistent, unlike distal goals that can actually become discouraging (Silverman & Casazza, 2000).

Another aspect of Goal theory is the specificity of the goal(s). A specific goal outlines in detail the intended outcome and a blueprint for the acquisition of the goal. General goals are less

precise in scope and direction, and are less motivational because they can be vague and without important monitoring benchmarks (Silverman & Casazza, 2000).

Finally, goal difficulty and goal commitment affect motivation. "The higher the difficulty level of the goal, the more likely it is that performance outcomes will be better" (Silverman & Casazza, 2000, p. 97). It is important to note, however, that the difficult goal must be perceived as attainable in order to be motivational. Difficult goals that are specific and include articulated standards and benchmarks lead to better performance than those that are vague, global, and/or without a timeline or consistent feedback. Goal commitment strongly influences difficult goal achievement; when commitment is weak, difficult goals are less likely to be achieved (2000).

Vygotsky's (1978) Zone of Proximal Development (ZPD) denotes the importance of proper instructional and modeling support by teacher and peers to promote motivation. Working with a more competent person increases motivation and performance. Another aspect of Vygotsky's ZPD is that goals, while challenging, must be attainable. Therefore, goal selection is critical; it (the goal) should be "out of close reach," (Turner, 2002), but the achievement of it is easily visualized (Woolfolk, 1998).

Attribution Theory

Like Goal Theory, Attribution Theory is based in Cognitive Theory and the "general 'godlike' metaphor of the individual that suggests that individuals are conscious and rational decision makers" (Pintrich & Schunk, 2002, p. 93). Attribution Theory assumes that individuals are motivated exclusively by the goal of understanding and mastering the environment and themselves. An example is the person as a scientist who is motivated to know the natural world

in order to make it more predictable and controllable. A second assumption of Attribution Theory is that people, as naïve scientists, also seek to discover the causal relationships between individuals' behavior, and their own behavior, in order to answer "*why*" things happen and people say and do certain things. More simply put, Attribution Theory describes how individuals' explanations, justifications, and excuses influence their motivation and behavior (Woolfolk, 1998).

The responsibility dimension relates to emotions such as anger, pity, gratitude, or shame that result from the internal or external locus of control. Failing at something when one feels responsible may lead to guilt; succeeding produces pride. Failing at an uncontrollable task may lead to shame or resentment; succeeding may lead to feeling lucky or grateful (Pintrinch & Schunk, 2002).

Social Theory

Social learning theories of motivation integrate behavior and cognitive approaches. They "take into account both the behaviorists' concern with the effects or outcomes of behavior and the Cognitivists' interest in the impact of individual beliefs and expectations" (Woolfolk, 1998, p. 377). Self-perceptions are strongly connected to behavior and to the phenomenon of self-fulfilling prophecy. Self-worth and self-efficacy are the result of self-perception, and they are the most prominent part of college students' self-definition.

Bandura (1986, 1995) suggests that self-efficacy, i.e. people's thoughts and predictions about possible outcomes of behavior regarding success or failure, and a sense of self-efficacy influences motivation through goal setting. Higher self-efficacy promotes the setting of higher goals. Self-efficacy beliefs are motivating because they provide a context for what to expect in a

task. Performance improves when self-efficacy is increased by adopting shorter-term goals and learning strategies are used that help focus attention. Too, motivation increases when rewards are received based upon the improved performance, not just engagement, because "performance rewards signal increasing competence" (Woolfolk, 1998). A sense of self-efficacy has four main influences: mastery experiences, vicarious experiences, social persuasion, and physiological or emotional feedback (Pintrich & Schunk, 2002). Bandura (1982) found that students with high self-efficacy have behavioral and affective reactions to outcome expectations such as "social activism, milieu change, assured and opportune action, and high cognitive engagement" (p. 163). Although outcome expectations and self-efficacy are not necessarily related, Bandura (1986) asserted that the former often are dependent on the latter: "If you control for how well people judge they can perform, you account for much of the variance in the kinds of outcomes the expect" (p. 163).

In addition to a person's expectancy for success, beliefs about the value of tasks and the value of success are other aspects of Social motivation. Attainment value is the importance of high achievement, e.g. the need to excel or be accepted. Interest value is that of enjoying the task for the task's sake, e.g. learning or solving puzzles. Utility value is when task completion aids in reaching a short or long-term goal, e.g. monetary reward or networking connections. Highly motivational, authentic task value is placed on activities that lead to current or future real-life problem solving, e.g. improving campus communication or providing community service. While the value to these tasks seems to be external to the person, it is actually integrated into the internal needs, beliefs, and goals of the individual (Pintrich & Schunk, 2002).

Another aspect of Social Theory is the influence of the teacher behaviors on student motivation. Teacher expectations of his or her students can be a powerful factor in motivating students. Rosenthal & Jacobson (1968) studied self-fulfilling prophesy in the classroom and named the phenomenon the "Pygmalion effect." Their study concluded that teacher expectations for student success could act as self-fulfilling prophecies because student performance comes to reflect the expectations (Pintrich & Schunk, 2002). Additionally, teacher enthusiasm can "promote observer's perceptions of task value, especially if the models practices what they preach" (p. 156). Enthusiasm also can raise student self-efficacy because "verbal persuasion is a source of efficacy information. (p. 156). Displaying a "you-can-do-it" attitude" (p. 156) can increase motivation and skill acquisition (2002).

Interest Theory

It is a common generalization and logical notion that people will engage in activity that promotes interest, and not engage in activity that is not interesting. Dewey (1913) discussed the important role of interest in learning, and with the development of Cognitive theories and Constructivist models of learning in the 1980s and 1990s, the study of interest has resurfaced. Krapp, et al (1992) propose three perspectives of Interest Theory: personal interest, interestingness, and interest as a psychological state (Pintrich & Schunk, 2002).

Personal interest is conceptualized as an individual personality trait, in which the interest is directed toward a specific topic or activity, rather than curiosity, which is not tied to personality, but to natural human inquisitiveness. Personal interest, a liking or positive attitude, is directed toward a particular content and is somewhat stable, although personal interest can wane, develop, or originate at any time (Pintrich & Schunk, 2002).

Another perspective, interestingness, relates to the topics, tasks, activities, or situations, themselves, as having characteristics, qualities, or value that generate interest. Interestingness is more than attention, arousal, or positive emotions. Dewey (1913) also differentiated between "catching" and "holding" interest. Hidi (2000) also suggests "triggering" as the initial activation of interest, and authentic experience as a sustaining element in interest (Pintrich & Schunk, 2002).

Renninger (1990) proposes another aspect of interest as a psychological state developed through cognitive processes. More than a personal preference or liking for a context, interest occurs when the individual has both value for and knowledge about the context. The argument is that individuals will not be interested in a topic they know little or nothing about, but have more knowledge about activities in which they have a high level of interest and value. Renninger defines the state of having value, but little knowledge about a topic or activity as "attraction;" "noninterests" are when someone has a great deal of knowledge about topics or activities, but little value for them (Pintrich & Schunk, 2002).

Reciprocal Theory

With the exception of teacher self-efficacy, the theories explored thus far relate directly to the motivation of learners. There is little argument that teachers influence student motivation. There also, however, exists a reciprocal influence between teachers and students. Reciprocal Theory takes into account motivation of both learners and their teachers, and the effects of student reactions to instruction. There is a small, but growing body of knowledge, about how students influence teacher motivation, which in turn, influences student motivation. A classroom of unmotivated learners can motivate the teacher to remedy the situation, or to quit teaching; a

classroom of motivated learners motivates the teacher to continue those practices that satisfy their charges (Woolfolk, 1998). Bandura (1986) describes these effects through his framework of triadic reciprocality:

> In the social cognitive view people are neither driven by inner forces nor automatically shaped and controlled by external stimuli. Rather, human functioning is explained in terms of a model of triadic reciprocality in which behavior, cognitive and other personal factors, and environmental events all operate as interacting determinants of each other. (Pintrich & Schunk, 2002, p. 147)

Teachers purposefully plan their instruction and interactions with students to promote a desire to learn, whether or not those plans and interactions actually become motivational.

Teachers' planning is strongly influenced by the needs, abilities, and motivation of the students. Teachers take into account not only the competencies and standards, but also the students' interests. In addition to advance planning, teacher motivation and behavior is affected during instruction. Positive learner responses to teaching practices, topics, and classroom activities are motivational for the teacher to continue them; negative learner responses motivate teachers to change practices, topics and activities. While teachers typically deviate little from their plans, decisions during teaching are influenced by their inferences about students' cognitive and affective processes relevant to motivation (Woolfolk, 1998).

Teaching Efficacy Theory

Recent research has focused on teaching efficacy, a sense of efficacy in teaching. There is a correlation between student achievement and a teacher's belief that he or she can help students learn. Self-efficacy theory predicts that teachers with a high sense of efficacy "work harder and persist longer even when students are difficult to teach, in part because these teachers believe in themselves and in their students" (Woolfolk, 1998, p. 393). Teacher efficacy grows from genuine

success with students, not just the "moral support or cheerleading of professors..." (p. 394). Teacher self-efficacy influences the same types of activities that student self-efficacy affects: choice of activities, effort, persistence, and achievement. Teacher self-efficacy is a primary determinant of what route a teacher will take in response to motivated or unmotivated learners.

Teachers with higher self-efficacy are more apt to grow professionally, develop challenging activities, help students succeed, and persist with students who have problems. Such teachers may encourage student-learning better through more careful planning of activities and in their interactions with students (Pintrich & Schunk, 2002). Aston and Webb (1985) found that "teachers with higher self-efficacy were likely to have a positive classroom environment, support students' ideas, and address students' needs" (p. 331). Teachers with low self-efficacy may avoid providing educational experiences they believe are beyond their capabilities, avoid students having difficulties, expend little effort to find new methods and materials, and not effectively re-teach when indicated. These motivational effects on teachers, and their self-perception of efficacy, are significant predictors of student achievement (2002).

Summary

The merits of PBL and Service Learning are apparent as evidenced by the literature. Analyzing their characteristics, however, exposes limitations of each pedagogy that could be lessened or removed by combining the two pedagogies. While researchers and practitioners claim the motivational qualities of each strategy, the literature on motivation theory explains the motivational factors inherent in pragmatic activities that are not a part of PBL.

Needs Theory suggests that learners possess higher needs of belonging, loving and being loved, and self-actualization; additionally, freedom and choice, and students' innate eagerness to

solve meaningful and relevant problems are motivational. The collaborative nature of PBL has the potential to create feelings of belongingness, but it is not evident in the literature that the PBL process moves learners toward greater self-esteem or clearer self-concept.

Goal Theory stresses the importance of commitment to meaningful goals. PBL utilizes problems that have been selected for their content appropriateness, not necessarily for their immediate and personal meaningfulness to learners. Attribution Theory proposes that individuals are motivated to know and control the natural environment. PBL is a collaborative research process for solving hypothetical problems, and while the process may include laboratory work, the students do not interact with the natural environment.

Social Theory emphasizes the student's need to have self-worth and self-efficacy, and student value for utilitarian and authentic tasks. While the literature on the collaborative aspects of PBL indicates that students be self-directed researchers, the self-efficacy does not necessarily go beyond the classroom environment. The PBL problems, while based on realistic situations, are not truly authentic and do not necessarily have utilitarian value beyond the given assignment.

Interest Theory, also common to Needs Theory, proposes the logical notion that individuals are motivated to undertake tasks that are of personal and authentic interest to them. PBL problems are crafted to be interesting to the students, but they have no personal stake to the learners. All the motivational discrepancies here noted in PBL are some of the strengths of Service Learning in motivating learners.

Finally, Reciprocal Motivation Theory and Teaching Efficacy Theory support the relationship between student and teacher motivation. When students are motivated, likewise is the teacher. When students achieve, the teaching efficacy increases. If making PBL more

pragmatic also makes it more motivational to the student, and if students are performing at an acceptable level, it follows that the motivation of the teacher-researcher may also improve.

No matter how motivation is defined, Service Learning can address it in a way that PBL alone cannot, and similarly, PBL can address the limitations of Service Learning. This finding, reinforced with the author-researcher's own observations, stands as a foundation to integrate the methodologies of PBL and Service Learning to impact student and teacher motivation for the resultant improvement of instruction.

CHAPTER 3. METHODOLOGY

In choosing a methodology, the teacher-researcher readily identified that qualitative research was more closely aligned with her problem resolution than any quantitative method. Qualitative studies are an inquiry process of understanding a social or human problem, rather than scientific methods that conduct experiments to make predictions (Creswell, 2002). The various traditions of qualitative research share a number of properties in common. Qualitative research studies begin with a "problem," "question," "issue," or "concern" to which the researcher desires to find the answer or resolution (Creswell, 1998, p. 19; McNiff, 2001, p. 57), or an "opportunity" the researcher desires to take advantage of (p. 2). The purpose of this study was to understand and resolve a concern in the teacher-researcher's communication classroom.

The topics chosen in qualitative studies span the social sciences, humanities, and educational realm; the topic for this study was improvement of instruction. The topics in qualitative research are typically emotional, people-involved, and practical; human motivation and the results on student learning are emotional and practical elements that directly involved all the participants in this study. Before, during, and after class meetings, the teacher-researcher collected data for inductive analysis, and focused on the participants. The traditions of qualitative research also have in common the natural setting where the researcher collects data in the form of words and images; the "laboratory" for this study was the actual educational environment. Also inherent in qualitative research, the teacher throughout the study described the research process in an expressive and persuasive language, and used multiple methods of data collection and a variety of empirical methods (Creswell, 1998).

There are also common epistemological assumptions that guide each qualitative tradition: "knowledge is within the meanings people make of it," i.e. constructivism; "knowledge is gained through people talking about their meanings; knowledge is laced with personal biases and values; knowledge is written in a personal, up-close way; and knowledge evolves, emerges, and is inextricably tied to the context in which it is studied" (Creswell, 1998, p. 19). The teacher-researcher sought knowledge about the identified problem to create meaning and eventually solve the problem. Because of the integration of the teacher-researcher into the study, the created meaning would be "radically plural, always open, and [have] politics in every account," (Creswell, 2000, p. 49) indicating a rigorous qualitative approach to the study.

Beyond these fundamental philosophies lie postmodern ideological perspectives regarding the authentic context of the study and empowerment of the researcher as participant in the study. The qualitative researcher is not "an objective, authoritative, politically neutral observer standing outside and above the text" (Creswell, 2002, p. 49). The active involvement in the process for the researcher is as a learner, rather than an expert. The teacher-researcher, a full participant in this study as "an all too-human observer of the human condition" (p. 49) sought to learn and be empowered to apply that learning in a practical way to improve the delivery of instruction to the benefit of her students.

The multiple characteristics of all the traditions of qualitative research make it a laborious and time-intensive methodology. In contrast to the *quantitative* inquiry that involves working with a few variables and many cases, qualitative research relies on a few cases and many variables. One communication class would be studied, and there would be the numerous predictable and unexpected variables that educators deal with, including teacher and student

behaviors, backgrounds, abilities, attitudes, values, and external influences. Careful analysis and decision-making are integral to the process of qualitative research, as numbers and statistical formulas are not used to simplify results and interpretations. The teacher-researcher did not seek numbers to answer the research questions; rather, she sought meaningful explanations and practical results for the benefit of the students. Qualitative research can help uncover participants' reactions to a program and underlying meanings. Answers or categories of answers are not presumed, but allowed to unfold and add a more in-depth understanding of situations.

Despite the underlying and general commonalities inherent in all qualitative research, there are fundamental differences between individual tradition applications. The qualitative research traditions have processes and purposes that are unique to each one. The driving reason and motivation for selecting a research methodology is its purpose and desired resulting product or process. What does the researcher want to accomplish? Because the intent of this study is to go beyond understanding of situations to improve instruction, the particular qualitative tradition that was employed was Action Research.

This chapter describes the methodology of Action Research that was undertaken for this study. The chapter also includes a description of the sample and population that was studied. Finally the data collection techniques, data considerations, and data analysis and interpretation techniques that were employed will be presented.

Action Research

Good teachers do action research all the time. They set goals, plan, act, assess, think, set new goals, plan, act, assess, and think, ad infinitum. After all, the educational process should be

a dynamic one with continuous and cyclical practices of inquiry, measurement, reflection, and evaluation for the purpose of improving teaching and learning.

Practical Action Research, as an informal method, has existed since humankind first encountered problems or sought to improve situations. Aristotle named the behavior "Praxis," the art of acting upon the conditions one faces in order to change them—pragmatism—as opposed to "Theoria," activities concerned with knowing for knowing sake. The pragmatic goal of practical Action Research in an educational setting is change (hopefully, *positive* change) that results in improved instruction. In addition to the pragmatic goal, the entire process of Action Research is pragmatic; the study occurs within the natural environment (the classroom), and with a natural sample of participants (actual students and the teacher-researcher) (Ornstein & Levine, 2000).

Though John Dewey, the founder of public education in America, used the processes of Action Research extensively throughout his career, practical Action Research is a nascent qualitative research methodology. It is a movement that has grown, showing that social-science methods can become the property of everyone and that systematic data collection and critical analysis can be implemented effectively in nonscientific methodology. Ralph Waldo Emerson said, "Society is always taken by surprise at any new example of commonsense;" too, educators and other professionals are now embracing Action Research for its pragmatic purpose—improvement (Schmuck, 1997).

Today, Action Research is highly respected as a research methodology that promotes change and improvement (Stringer, 1999). It has gained in popularity due to professional motives and social demands. The professional educator, who incessantly strives to be more

effective, naturally engages in the Action Research process for the self-satisfaction of resolving a problem or situation, or taking advantage of an opportunity. This intrinsic motivation drives professionals to continually learn and apply that learning. There are also extrinsic motivators, such as accountability to the public and the students for improving instruction and student learning. Conducting Action Research, whether formally or informally, is a practical process for evaluating and problem solving (Stringer, 1999). Action Research encourages educators to reflect on and evaluate their practice in order to enhance the educational experience for both teacher and learner and accelerate student achievement.

"Educational reform begins with a sense of dissatisfaction with present practice" (McNiff, 2001, p. 57)—a persistent desire to go beyond the status quo. Action Research is derived from the idea that dissatisfaction gives rise to the need to enact change. This change is then brought about by cycles of planning, practical application, and assessment (McNiff, 2001). Rarely is Action Research a finite process; rather it is cyclical, with the teacher-researcher continually striving to improve him- or herself, classroom conditions, and student achievement. The process of Action Research for this study began with an initial observation of student performance and critical reflection of self and practice. When a concern arose, the process continued with the practical application of Action Research.

Preliminary Steps

Observation, reflection and continuous assessment of student performance are practices expected of teachers. When observations of student performance are made that cause concern, it is imperative to engage in critical reflection of self and practice. That was the initiation of

Action Research for this study. The preliminary steps taken were reflection on the current situation, the future, and subsequent hypothesizing of potential actions (Schmuck, 1997).

Six critical questions (Barrett & Whitehead, 1985) initially prepared the teacher-researcher to engage in Action Research. The first question was, "What is your concern?" (McNiff, 2001, p. 57). The concern was that Problem-Based Learning (PBL), a legitimate active pedagogy, was not maintaining the motivation of students throughout the semester in her Small Group Communication class. There was an apparent decrease of student satisfaction with the traditional PBL process that engages students in solving teacher-crafted, hypothetical problems. Additionally, the author's own initial enthusiasm in using PBL waned out of reaction to the students.

The second question was "Why are you concerned?" (McNiff, 2001, p. 57). The rationale for the concern was that since student motivation is highly correlated to learning, the lack of motivation observed among the students could reduce or deter student achievement of course competencies in Small Group Communication. It was bothersome that handing students pre-selected problems did not allow them choice. There was a concern that traditional PBL was not helping students construct meaning or solve problems in real-life situations. An additional was that the author's own lack of passion would negatively affect student motivation.

The third question was "What do you think you could do about it?" (McNiff, 2001, p.57). A logical consideration for resolving the concern was that the traditional PBL model could be altered to allow students to solve real life problems of their choice. The students could identify the problems on or off campus, and then apply the PBL process. Real-life solutions could actually be implemented.

The fourth question was "What kind of 'evidence' could you collect to help you make some judgment about what is happening?" (McNiff, 2001, p. 57). Evidence collected included student input, tardiness and absenteeism rates, project quality, and observations of student participation and enthusiasm. Additionally, current literature regarding PBL, Service Learning, and motivation theory was searched. The result of this preliminary step was the determination that motivation theory includes aspects of motivation that the traditional PBL strategies do not provide.

The fifth question was "How would you collect such data?" (McNiff, 2001, p. 57). Preliminary data was collected from field observations, artifacts and documents, such as attendance and tardy records, student questionnaires and interviews, videotapes, audiotapes, anecdotal records, and reflections by independent observers.

The sixth question was "How would you check that your judgment about what has happened is reasonably fair and accurate?" (McNiff, 2001, p.57). Conclusions were drawn using the principles of planning, conducting, and analyzing the questionnaire data. Tardiness and absenteeism rates were compared with the qualitative data. All collected data was compared to the literature and other resources. The author determined that there was a legitimate concern to be addressed, and this began the first cycle of Action Research for this study.

The Action Research Cycle

Following the preliminary reflection, proactive Action Research began with an emerging practice, Service Learning, for the purpose of improving instruction. After initially identifying and analyzing real-life problems on campus and in the community during the first two weeks of the Fall, 2002 semester, Small Group Communication students used the PBL process for

approximately two weeks to research the problems and determine possible solutions. They then engaged in the service for approximately a two-month duration, suggested by Schmuck (1997) to begin addressing the problems. Appendix C contains the Service Learning project assignment and timeline that was given to the students on the second day of class.

After the new practice had been implemented, data was collected for three purposes: "(1) To assess whether the new practice has merit" (Schmuck, 1997, p. 92). Did motivation improve? Were students more satisfied? Did the instructor's enthusiasm increase? "(2) To judge whether the new practice has worth" (Schmuck, 1997, p. 92). Is there efficacy in combining PBL with Service Learning? Did the students meet the course competencies? Did student performance improve? Did the students learn something they can apply to their lives? "(3) To uncover new themes or action ideas that emerged while the new practice was implemented" (Schmuck, 1997, p. 92). Are there unexpected positive results from the new practice? Are there unintended negative results from the new practice? A presentation and analysis of the collected data from each of the cycles are brought forth in Chapter 4 and the interpretation of the data is presented in Chapter 5.

Population and Sample

The tenth, and newest, college in the Maricopa County Community College District (the largest in the United States, serving over 250,000 students) is Estrella Mountain Community College. Located in the southwestern Phoenix area, its Fall 2002 enrollment was 4,471, and 2,570 of those were daytime students. The mean age of day students was 26.6 years. 64 percent of the day students were female and 36 percent male. Demographics of daytime students by ethnicity were 45 percent White/Non-Hispanic, 37 percent Hispanic, 5 percent Black, 2 percent

Asian, and 1 percent American Indian. 57 percent of daytime students were part-time (carrying less than twelve semester hours) and 43 percent were full-time (Willekens, 2002).

The criterion for inclusion as the student sample in this study was enrollment in the author's daytime Small Group Communication course during the Fall 2002 semester. The data revealing the demographics of this sample are presented in Chapter Four.

Data Collection Techniques

In writing about research, Colin Robson (1993) contends "We can watch people and try to work out what is going on; we can ask them about it; and we can look out for 'fingerprints' (as well as any other evidence they leave behind them)" (McNiff, Lomax, & Whitehead, 2001, p. 76). This comment is especially adaptable to Action Research in which this study was conducted on both the effects of the researcher's actions and effects on the researcher. Additionally, during Action Research, "critical critique" (Winter, 1989) via participant feedback assisted the researcher to see different points of view (McNiff, Et al., 2001). Finally, "fingerprints" included a wide range of descriptive data (p.53). Action Research literature recommends "triangulation," (Mills, 2000, p. 49) or the use of more than one strategy, or type of data, to strengthen the study. Three fieldwork strategies--experiencing, enquiring, and examining--were the triangulated methods for the collection of qualitative data by the participatory researcher (2000). Tables 1, 2 and 3 depict the timeline of data collection and subsequent research activities during the three cycles.

Experiencing

The teacher-researcher, who was a genuine participant in the activity being studied, experienced the study along with the students, and will be known as a "participant observer"

Table 1: Timeline of Data Collection and Research Activities—Cycle One

TIMELINE	DATA COLLECTION	RESEARCH ACTIVITIES
CYCLE ONE		Pre-planning
Class 1	Experience/field notes Examine Teacher Journal	Begin data categorization Aggregate demographic data Reflect
Class 2	Experience/field notes	Evaluate and categorize data Reflect
Class 3	Experience/field notes Enquiry/Pre-survey	Evaluate and categorize data Establish and synthesize emerging patterns Reflect
Class 4	Experience/field notes Examine Discussion Board Examine teacher journal	Evaluate and categorize data Establish and synthesize emerging patterns Reflect
Class 5	Experience/field notes Examine videotape Examine teacher journal	Evaluate and categorize data Establish and synthesize emerging patterns Reflect
Class 6	Experience/field notes Examine student records Examine group booklets Examine Discussion Board	Evaluate and categorize data Code group & student identities Establish and synthesize emerging patterns Reflect Plan cycle two

participant observer, such as when the teacher-researcher was engaged in direct instruction. The author also observed in a more "privileged" active role, when not directly responsible for the delivery of instruction. Observation of social interactions, and student behaviors in other classroom settings were also conducted. The author-researcher was also a "passive" observer participant, in which subsequent to teaching duties she concentrated on data recording (Mills, 2000, p. 50-1).

One advantage of observations is that data about behavior was systematically collected, in addition to perceptions and feelings. During the observations, field notes were used to document as much as possible, although it was impossible to record everything. The recording

Table 2: Timeline of Data Collection and Research Activities—Cycle Two

TIMELINE	DATA COLLECTION	RESEARCH ACTIVITIES
CYCLE TWO		Planning
Class 7	Experience/field notes Examine group booklets Enquiry/informal interviews Examine Discussion Board	Evaluate and categorize data Establish and synthesize emerging patterns
Class 8	Experience/field notes Examine group booklets Enquiry/informal interviews Examine Discussion Board	Evaluate and categorize data Establish and synthesize emerging patterns Interpret data with student participants Reflect
Class 9	Experience/field notes Examine group booklets Examine Discussion Board Enquiry—informal interviews	Evaluate and categorize data Establish and synthesize emerging patterns Reflect
Class 10	Experience/field notes Examine group booklets Examine Discussion Board Examine teacher journal	Evaluate and categorize data Establish and synthesize emerging patterns Begin theme development Reflect
Class 11	Experience/field notes Examine group booklets Examine Discussion Board Examine student self-evaluations Examine teacher journal	Evaluate and categorize data Establish and synthesize emerging patterns Continue theme development Reflect Plan cycle three

of observations was simple and ongoing, and provided data on specific issues to general impressions (McNiff, 2001). A systematic "who-what-when-where-why-how" method of taking field notes was used. Another advantage was that less obvious details and occurrences were observed that some respondents to enquiry might not have been aware of, such as ecological considerations. It was also important to not be focused on looking for particulars, but to use fresh eyes with no preconceived notions (Mills, 2000). Observations were unstructured (e.g. while teaching), and/or structured (e.g. when the teacher-researcher had time to be a passive

Table 3: Timeline of Data Collection and Research Activities—Cycle Three

TIMELINE	DATA COLLECTION	RESEARCH ACTIVITIES
CYCLE THREE		Planning
Class 12	Experience/field notes Examine Discussion Board Examine student records Examine tracking matrix	Evaluate and categorize data Establish and synthesize emerging patterns Continue theme development Reflect
Class 13	Experience/field notes Examine Discussion Board Examine student self and peer assessments Examine tracking matrix	Evaluate and categorize data Establish and synthesize emerging patterns Continue theme development Reflect
Class 14	Experience/field notes Examine student self and peer assessments Examine tracking matrix Examine Discussion Board	Evaluate and categorize data Establish and synthesize emerging patterns Continue theme development Reflect
Class 15	Experience/field notes Examine Discussion Board Examine student journals Examine group booklets Examine tracking matrix Examine teacher journal Enquiry/Formal interviews Examine student records	Finalize theme Cross-checks with students and colleagues End formal study Begin Cycle Four

observer) (Schmuck, 1997). It was important to observe paradoxes or contradictions, opening the teacher-researcher's eyes to new ideas in the research process (Mills, 2000). It was also important to observe and record the nonverbal, as well as the verbal communication that occurred in the research setting (Schmuck, 1997).

Enquiry

Observation and enquiry are complementary methods of gathering data; enquiry is the process of data collection from the asking of questions in order to fill gaps or gain further insight. Observational data was used to "feed" enquiry. Enquiring spanned a broad spectrum from

informal questioning during conversation, to highly structured methods, such as questionnaires and structured interviews (Mills, 2000).

The advantages of enquiry were that the teacher-researcher probed for more information; created and fostered rapport with respondents; collected data from those who could not, or would not, independently offer information; and allowed for responses that could be anonymous, providing a higher degree of validity. It was important for the teacher-researcher to be cognizant of the disadvantages, however: time intensity, the challenge of a sufficient sampling, possible bias in responses, and possible respondent's fear of retribution when the enquiry was not anonymous (Schmuck, 1997). Survey questionnaires, interviews, and discussions were the types of enquiry that provided specific information and feedback.

While questionnaire surveys are difficult to create and liable to misuse, they were especially beneficial in an exploratory mode and were planned, formatted, conducted, and analyzed according to accepted ethical principles. The surveys were conducted from planning to analysis according to the standards derived from the Association for Institutional Research's Code of Ethics, the Code of Professional Ethics and Practices (1996) of the American Association for Public Opinion Research, the Code of Professional Responsibility in Educational Assessment (1996) prepared by the Ad Hoc Committee on the Development of a Code of Ethics of the National Council on Measurement in Education, and the Research Industry Coalition's statement on Integrity and Good Practice in Marketing and Opinion Research (1996); these guiding principles are best summarized by:

> Strive to conduct a survey in a manner that is free of potential bias. Minimize potential sources of bias, and disclose factors that may bias the results of the survey. Protect the rights of privacy of those who are surveyed, and protect the confidentiality of individually identifiable information. Avoid harming, humiliating, embarrassing, or

> seriously misleading respondents. Avoid the fraudulent use of copyrighted materials. Take appropriate security precautions before, during and after administration of the survey. Disclose the following items in any report of survey results: Who sponsored the survey, and who conducted it; the exact wording of questions asked, including the text of any preceding instruction or explanation to the respondents that might reasonably be expected to affect the response; a definition of the group being studied; a description of how the respondents were selected by the researcher, including eligibility criteria and screening procedures; sample size and completion rates; method, location, and dates of data collection; information on the precision of the findings, including, if appropriate, estimates of sampling error and a description of any weighting or estimating procedures used; a fair, objective, and complete presentation of the outcomes of the survey, both intended and unintended, without censorship; appropriate attributions of the work and ideas of others; and appropriate qualifiers for the conclusions of the research within the limitations of the study. Discourage others from making inappropriate reports, unsubstantiated claims, inappropriate interpretations, or otherwise false and misleading statements about survey results. Promote the use of multiple sources of information about persons or programs in making decisions. (Suskie, 1997, pp. 1-2)

Mills (2000) emphasizes the importance of the collection instrument, itself, and the teacher-researcher ensured that it was carefully proofread, neat and reader-friendly, concise, not too lengthy, and allowed for other comments. Suskie (1997) points out the importance of using quality paper and reproduction services, and the teacher-researcher attended to those. The format of the questionnaire, such as multiple choice questions, yes-no answers, checklists, rankings, or Likert scales, was determined by the purposes of the questionnaires and consideration of each format's advantages or disadvantages (Suskie, 1997). Appendix A contains the pre-survey that was administered during the first week of the semester. Appendix B contains the post-survey and interview questions given to students to conclude the final cycle of Action Research after the students had engaged in the Service Learning for eight weeks.

The teacher-researcher heeded the suggestion by McNiff, Et al. (2001) that while questionnaires can provide strong data, they should not be used unless absolutely necessary—"to

find out basic information that cannot be ascertained otherwise" and/or "to evaluate the effect of an intervention when it is inappropriate to get feedback in another way" (p. 98). The pre-survey was deemed necessary to efficiently and comprehensively pre-assess student attitudes, to determine the demographics of the population, and to elicit student concerns about their campus and/or local community. An informal questionnaire using a Likert scale was also administered on the "Discussion Board" to collect additional data on student motivation because class time did not allow for informal enquiry of all student groups. The Discussion Board is a function of BlackBoard, the web support system of the college that promotes out-of-class, anytime discussion between class members and their instructors. It is similar and function and purpose to the Capella University discussion threads in the online courses. The discussions begin with a prompt issued by the teacher, and students respond to the prompt and to each other's comments. The prompts, or questions, for the survey are presented in Chapter 4. A post-survey, using questions identical to questions in the final interview conducted with randomly selected students was also administered at the conclusion of the study to ensure there were no gaps or discrepancies in previously collected data by all other methods, and to reinforce data findings data collected previously by all other methods.

Interviews and discussions were also extremely valuable sources of data, though they were time intensive. Live, informal interviews provided immediate feedback on the enquiry and suggestions for future action, and recording the interviews ensured that all data would be available for possible examination later in the study. Interviews were crucial in validating improvement. Ostensive methods of documentation include audio and video recording devices, though they initially seemed intrusive. Formal interviews were fully structured and informally

ethnographic. Fully structured interviews were the face-to-face delivery of a questionnaire with a planned agenda. The purpose of this structure was to ensure the delivery of identical questions to the respondents. Appendix D contains the questions that were formally asked of all selected participants at the close of the study during scheduled one-on-one interviews. The ethnographic, open interview had a starting point, but no set agenda, and several of these took place in and out of class. Follow-up questions were those in response to answers, and this type of interview provided additional information during both formal and informal interviewing (Schmuck, 1997).

Data was also collected from planned whole-class discussions that occurred during each class. Spontaneous, whole-class discussions also revealed important data. By virtue of the collaborative small group nature of the course, not all discussions occurred whole group. These took place before, during, and after class, and the teacher-researcher collected data from when she was engaged with the individual collaborative groups. (McNiff, 2001). The data was recorded during the discussions or as soon as possible after they ended.

Additionally, the teacher-researcher conducted enquiry using the Discussion Board to elicit reactions, thoughts, and feelings. The teacher-researcher set up communication threads for each of the Service Learning teams, using their team names, to request and receive feedback, encourage communication and networking, provide an additional means for out-of-class contact between the team members, the teams, and between the students and teacher.

Examining

The third method used in triangulation, examining, was the scrutinizing of student records, student and teacher-researcher journals, group problem-solving booklets, a project tracking tool, video recordings of student presentations (Mills, 2000), Discussion Board postings,

and student self- and peer-assessments. The advantage of examination was the objective study of hard data (Schmuck, 1997).

Examining student records on attendance and punctuality provided data regarding student motivation.

The use of student and researcher journals offered additional data through their primary and individualized documentation, and diagnostic assistance. Student journals were used to provide direct feedback and responses about their own observations, experiences, attitudes, and learning. They also allowed for freedom to make suggestions when trust had developed between the teacher-researcher and the student writer. Though the students were provided structure and prompts for the journals, they were given little constraint as to the content or mechanics of their writing. Furthermore, the teacher-researcher attempted to alleviate fears regarding censorship or recriminations for honesty. Permission from the student writers was solicited prior to publication of any of their writing in this dissertation or other venues (McNiff, Et al., 2001). Appendix E contains the student journal assignment. Appendix F contains the student journal prompts. Appendix G contains the student journal rubrics.

The teacher-researcher's journal was valuable as a chronicle of experiences and means for critical thought and evaluation. Different than field notes, the researcher recorded thoughts and feelings, questions and concerns, and ideas for change, rather than observations. The journal was also used as an agenda planner or timeline for the future and additionally served as a progress report for reflection. "Thick descriptions" (Stringer, 1999, p. 176) were recorded in the journal, as well as in field notes that were used as raw data for additional analysis. (McNiff, Et al., 2001).

During the second cycle of Action Research, the students received group booklets for working through the problem-solving process. The student entries provided data regarding student learning and critical thinking.

A tool for tracking the status of student projects was developed for use during the third cycle of Action Research. The students and teacher made entries after each class and the tracking matrix provide data regarding planning, responsibility, and critical thinking.

Visual recordings of student presentations were used to illustrate student learning, and to comprehensively and accurately examine student behavior. They are concrete evidence that an event took place (McNiff, Et al., 2001). Examination of the Discussion Board postings provided insights about student needs, thoughts, and feelings regarding their course experiences. The teacher-researcher gave each group its own thread for communication, and she allowed anonymous postings for students to freely express themselves using the "Customer Service" thread. Students were provided the "Help!" thread to direct requests to the teacher-researcher or other students and the "Playroom" thread for social exchange.

Student self- and peer-evaluations provided data regarding student learning, responsibility, critical thinking, and attitudes.

Data Considerations

Unlike in quantitative research, reliability, and generalizability are not issues in qualitative research (Enns, 2002). Rather, exclusive (but close) attention to validity of data ensures the quality of Action Research. "Validity" refers to the "degree to which scientific observations actually measure or record what they purport to measure" (Mills, 2000, p. 72). The validity of data ensures the quality of Action Research. Egon Guba's article "Criteria for assessing the

trustworthiness of naturalistic inquiries" (1981) is directed to qualitative researchers. He defined four aspects of validity, or "trustworthiness" of Action Research: credibility, transferability, dependability, and confirmability of the data (Mills, 2001).

Credibility

The first criteria of validity of Action Research, credibility, refers to the "researcher's ability to take into account all of the complexities that present themselves in a study and to deal with patterns that are not easily explained" (Mills, 2001, p. 73). A number of methods were employed to ensure credibility: prolonged engagement with participants (eight weeks and three cycles of Action Research); triangulation of data; persistent observation to detect patterns and anomalies; peer debriefing to enable articulation and testing of developing insights; testing of findings with other evidence; and participant checks to corroborate findings (Mills, 2001; Stringer, 1999).

Transferability

Transferability, the second criteria of validity, is the researcher's confidence that the findings of the study are "truth" and can be projected to other groups of people and across settings. Transferability was established through the garnering of data that "permit comparison of a given context to other possible contexts (classroom/school) to which transfer might be contemplated" (Mills, 2001, p. 74). The detailed descriptive data of the context collected for this study should enable others to understand and apply the study to their own situations; it helps "other audiences to see themselves and/or their situations in the accounts presented" (Stringer 2001, p. 177).

Dependability

The third criterion of validity, dependability, refers to the "stability of the data" (Mills, 2001, p. 74). Similar to triangulation, "overlap methods" were used in order for one method to compensate for another's possible deficiencies. Data from teacher observation was coupled with data from student and teacher-researcher journals, group booklets, questionnaire surveys, interviews, Discussion Board postings, and video recordings to produce common findings. In addition, the assistance of an external, objective "auditor," a colleague of the teacher-researcher, to examine the process of data collection and analysis was used throughout the study to help determine dependability (Mills, 2001; Stringer, 2001).

Confirmability

Confirmability of the data is the final element to determine validity. Confirmability refers to the "neutrality" or "objectivity" of the collected data. Guba (1981) suggests that triangulation and reflexivity address this element. The utilization of a variety of data resources from the three strategies of data collection, observation, enquiry, and examination, contribute to the confirmability of the data. The practice of reflexivity was used to determine the intentional revelation of biases or assumptions that could have lead the teacher-researcher to be less than objective when observing, questioning, or examining data. She became a passionate believer in, and supporter of, Service Learning during the course of the study. By virtue of her professional responsibility, she strongly desired the new practice to be successful (i.e. increased student motivation and learning, and increased teacher motivation). The use of the researcher journal for critical reflection and "musings" (Mills, 2001, p. 75) was an effective way of exposing any

biases for consideration when analyzing the data. Additionally, an unbiased colleague assisted in validating data interpretation (2001).

In addition to the above critical elements of validity of data collection, Walcott (1994) provides a practical and simplified list of suggestions for ensuring the validity of Action Research that the teacher-research made every attempt to heed: "Talk little, listen a lot; record observations accurately; begin writing early; let readers 'see' for themselves; report fully; be candid; seek feedback; and write accurately" (Mills, 2001, pp. 80-82).

Data Analysis and Interpretation

After data collection is the next step in the Action Research process—the measuring of data for analysis and interpretation. Perhaps the most difficult part of the research process is the creation of meaning from the mounds of collected data. Moreover, unique to Action Research is the ongoing nature as it provides teacher-researchers with data that can be used formatively to positively affect teaching practices throughout the study, and summatively at the end of each cycle of study. One resolution leads to the creation of a new, related or unrelated, concern. As an action researcher, the teacher's job is never complete (Mills, 2001). After each cycle, the data speaks about a new way to see, use, and seek information (Enns, 2001).

Action Research in this study required a planned method for gathering data, and a strong consideration regarding the types of qualitative data to gather. The process for analysis of data in Action Research was in "constant comparison" (Erlandson, Harris, Skipper, Allen, 1993; Gerdes, 2001), with the teacher-researcher examining and evaluating the data as the study went forward. The analytical process sought patterns, themes, and insights, as they unfolded in the study and became grounded in the data. The raw data was interpreted with input from student

participants and an objective colleague. After drawing conclusions, the teacher-researcher reflected upon the meanings and determined alternative ways to perform in the future. The cycles invariably ensued with implementation of another new practice (Schmuck, 1997).

Data Analysis Techniques

Data analysis is the most time-consuming and challenging step in the Action Research process; it is also no less critical than any other step. Data analysis began with disaggregation (breaking the data into pieces), placing similar pieces together, and making meaning out of the rearranged data. The teacher-researcher then categorized the rearranged data, identified patterns, and synthesized them to form themes. Determining themes was a way of making sense out of seemingly unrelated material and the themes were identified by events that repeated themselves, similar or identical participant phrases, and matching survey responses. Themes were inductively determined, beginning with what had been identified in the literature, and proceeding to what the data provided. (Mills, 2001).

Another approach to data analysis was the asking of key questions to "extend understanding of the problems and contexts" (Stringer, 1996, p. 87) that were studied. The questions were those that began the study in the first place—"the who, what, when, where, why, and how of the educational process" (Mills, 2001, p. 101). The research questions regarding effects on student and teacher motivation, and other effects, served as a reminder to the teacher-researcher of the study's purpose, direction, and goals.

Central to the Action Research study was the causal relationship between new practices and results. Revisiting the literature showed that it supported the cause-effect relationship determined by the study (Mills, 2001).

It was also incumbent on the researcher to display findings with colleagues; summarizing and sharing insights with them to provide opportunity for feedback, suggestions, and even critique. This took place informally with colleagues and allowed for multiple perspectives that helped the teacher- researcher "see" the data in a different way to help with the interpretation (Mills, 2001). Finally, after using the above data analysis techniques, a search ensued for gaps and unanswered questions to avoid premature findings (Mills, 2001).

Data Interpretation Techniques

Following the analysis of data is the risky and challenging activity of interpretation. Interpreting qualitative data has important purposes in education. Wolcott (1994) believes that action researchers must accept these risks and challenges because they can "demonstrate to others (and reassure ourselves) that, in spite of their undistinguished origins, our works and the implications to be drawn from them are socially significant" (Mills, 2001, p. 103). Action Research results can challenge assumptions, beliefs, and practices that have been commonly accepted. The results matter to students and their achievement.

Mills (2001) synthesized the work of Wolcott (1994) and Stringer (1996), in regards to data interpretation, and adapted it to teacher-researchers. He offers five techniques for interpreting data that the author undertook: "extend the analysis, connect findings with personal experiences, seek advice of "critical " friends, contextualize findings in the literature, and turn to theory" (Mills, 2001, pp. 104-105).

A low-risk technique of data interpretation that the teacher-research used was extending the analysis by asking questions about the study. This strategy of questioning to note "implications that might be drawn without actually drawing them…points the way rather than

leading the way" (Mills, 2001, p. 104). Appendix H presents the questions generated by the researcher in conjunction with participants and non-participants.

Personalizing Action Research is a logical exercise for making data meaningful and the data interpretation was also based upon prior personal experience and participation in the study. The teacher-researcher had intimate knowledge and understanding of teaching and learning, but also personal experiences with the students by participating with them in the planning and implementation of their service projects. She also had the benefit of recalling prior experiences with using PBL in the Small Group Communication classroom to compare and contrast with the new practice. These were powerful ways to see and make sense of the data (Mills, 2001).

Sometimes it is because of the closeness of the teacher-researcher to the study that data is misinterpreted or missing significant interpretations. Seeking the advice of trusted colleagues, and the study participants added new insights to the data. The teacher-researcher was discretionary, however in soliciting and accepting other, and often potentially voluminous advice, to avoid confusing the results (Mills, 2001). The importance of choosing the right mix of quantity and quality in colleagues could not be overemphasized. Advice was sought from an objective colleague who is knowledgeable about PBL. The colleague offered that the teacher-researcher was understating the results of the study. Additionally, the data interpretations were discussed with student participants, who saw in the data more importance in the teacher's role than the teacher-researcher had interpreted.

Finding support for the study's findings was attempted by contextualizing findings in the literature. Finding external, informed, and recognized sources to corroborate the results provided "a way to share with colleagues the existing knowledge based in a specific area of focus, and to

acknowledge the unique contribution the teacher-researcher has made to our understanding for the topic studied" (Mills, 2001, p. 105). More importantly, it helped to further confirm the validity of the research.

Mills (2001, p. 105) offers the definition of theory as "an analytical and interpretive framework that helps the researcher make sense of 'what is going on' in the social setting being studied." Initially, the teacher-research used theory to interpret data for three reasons. One purpose was to connect her research to broader educational issues. Results of the study were compared and contrasted to related theories, and an association to a combination of theories was determined. Next, the teacher-researcher also used theory to move from a descriptive and pragmatic account of the findings to seeking meanings (that are more abstract) to share with colleagues. Finally, since embraced theories have influenced educational practitioners at all levels; it was important to share the theories that helped interpret the data (Mills, 2001).

Finally, it was important that the teacher-researcher felt comfortable with the interpretation of data; but the cyclical nature of Action Research made it possible for new episodes of change that resulted from the prior episode. Fine-tuning the efforts resulted in increased understanding, and more effective future application of the study (Mills, 2001).

Conclusion

Qualitative research methods have different processes and purposes. The driving reason and motivation for selecting a research methodology is its purpose and resulting product or process. What does the researcher want to accomplish? The pragmatic goal of practical Action Research in an educational setting is change (hopefully, positive change that results in increased student achievement). That, exactly, was the author's goal—to enact new teaching practices in

response to a concern, for the purpose of improving student motivation and self-motivation. In addition to the pragmatic goal, the entire process of Action Research was pragmatic; the study occurred within the natural environment (the classroom), and with a natural sample of participants (actual students and the teacher-researcher).

The observational research in this study provided preliminary data regarding the success of integrating Service Learning with PBL. It was incumbent on the teacher-researcher to ensure sufficient quantity, quality, and variety of data, and to analyze and interpret the data in valid and meaningful ways for the purpose of improving instruction in the Small Group Communication classroom and adding to the body of knowledge regarding best instructional practices. The following chapter presents, analyzes, and interprets the data collected during the course of the study.

CHAPTER 4. DATA PRESENTATION, ANALYSIS AND INTERPRETATION

The impetus for this study was the teacher-researcher's concern that student motivation seemed to wane approaching mid-term while using PBL in the Communication classroom. Indicators of lagging motivation were increased absenteeism and tardiness, and an observed lack of enthusiasm, participation, initiative, and responsibility. The research questions that drove the study were: (1) What are the effects on students' motivation when engaged in the process of PBL to perform Service Learning? (2) What other effects on students result from engaging in the PBL process to perform Service Learning? (3) What are the effects on the participant/researcher's motivation when engaging her students in the PBL process to perform Service Learning? The teacher-researcher collected from a pre-questionnaire, interviews, video presentations, student journals, participant observations, and class records. This chapter presents a first-person viewpoint narrative and chronological account of the qualitative data collected during three cycles of Action Research. The teacher-researcher was a full participant in the study, and presents the story as it unfolded from her point of view. The chapter proceeds to the analysis and interpretation of the data, written in third-person point of view to allow the author-researcher to view and present the discussion as objectively as possible. The analysis and interpretation are presented as they relate to each of the three research questions.

Data from Cycle One

Pre-planning

The first cycle of the research began with pre-planning for the PBL-Service Learning practice. I, the teacher-researcher, produced a syllabus to provide my students information about the Small Group Communication course competencies, class policies, and a schedule of class topics, activities, and assignments (Appendix B). Additionally lesson plans, the Service

Learning assignment, and student journals were prepared, and a variety of handouts identified or produced. A pre-survey was also developed (Appendix A).

Class One

At 8:30 o'clock on the first Tuesday morning, the 1 hour and 15 minute class began. I was pleased to see the class full with 30 students (the maximum number of students allowed for class size), thinking that the more students, the more data would be generated during the semester. Scanning the room, I was also pleased to note the diversity of students in age, gender and ethnicity, typical to our campus. The room arrangement was six tables with five chairs at each—very appropriate for a Small Group Communication class that uses small group communication to achieve the course competencies. Typical of the modern college classrooms, this one had a computer teacher station with Internet access, a projection system with remote control, and ports for a floppy disk, CD, and zip disk. Additionally, there was a combination television-VCR-DVD; my students and I would use this technology for presentations, visual aids, and web support.

Class began with an introduction of myself and the usual orientation to the course, but this time introducing and explaining new elements of the course: Problem-Based Learning and Service Learning. I paid particular attention to the Service Learning requirement for the class, and was prepared to deal with any challenges—which are typical (Mason, 2001)—when students are presented with a Service Learning requirement. I told them they would be responsible for a minimum of 30 hours of community service—but they would have choice regarding where, when, and with whom. This would count toward their homework/study hours, which they could expect as college students to be six hours per week per three-hour credit course, and therefore, they "really owe me 90 hours, but 30 of them are for Service Learning activity." Observing

their verbal and nonverbal reactions, this logic seemed to ease the minds of my very busy community college students. Students nodded their heads to me and to each other. There were no verbal complaints, grumbling, or challenges, and I observed no "eye rolling," or frowning, behaviors that can indicate dissatisfaction. I asked for verbal feedback about what I had presented. Two students indicated that they had been involved in Service Learning for their education courses, made positive statements and answered a question by another student about the difficulty of such a requirement. One of the Service Learning veterans said that it "worked into my schedule and my kid's school schedule pretty easily." The other experienced student said that she thought 30 hours was pretty easy to accumulate, and that she had actually gone beyond the requirement because she liked it. Additionally, she said that it had helped her make a career decision about going into social work. Again, I asked for any concerns, questions, or feedback regarding any aspect of the course. There were no additional remarks. Students were given a reading assignment and a self-evaluation form on leadership due for the following class meeting, and I remarked that I hoped they would all return—my usual farewell to all my students after the first class.

Reflecting on the first day in my journal, I sensed good feelings about the class. I had received no negative feedback or indication that students were apprehensive, and I was glad to have the testimony of students who had performed Service Learning.

Class Two

The Thursday class began with an activity to introduce themselves to classmates sitting at their tables. Each student was to tell his or her group members two interesting truths about themselves and then tell one mistruth. Group members would guess which shared information

was the lie. Each group then shared with the whole class what they had voted for being the most intriguing truth and the most outrageous lie.

After discussing the assigned homework, students were assigned to identify and evaluate one effective and one ineffective leader, as leadership would be the communication topic for this class meeting. After whole class discussion, I presented a PowerPoint presentation on "Helping Leadership." Following the presentation, students discussed in randomly selected small groups how their identified ineffective leaders could have been helped to be more effective.

The final item for the first class' agenda was the administration of a survey to obtain primarily demographic information, attitudes toward community service, and to identify student concerns about problems on campus and/or in the local community (Appendix A). Before the students could complete the survey, however, they were provided inventories to determine their 4-MAT (McCarthy, 1997) learning style and their level of intercultural competency (Bennett & Bennett, 2002). I gave the students as homework an assigned article on either PBL or Service Learning to read prior to the next class.

Class Three

After taking attendance, I was pleased to observe that no students had dropped the course, which can be typically expected after the first week of school when students question their abilities or dislike their first impressions of the course. Recalling past communication classes, one or two students from each often did not return for a variety of reasons. Having asked if anyone needed clarification of the survey questions before collecting them, there were no questions and the surveys were collected.

The class began with the forming of groups that would engage in their first collaborative activity. Groups formed according by matching their assigned PBL or Service Learning article with the other four students who had been assigned the same article to read for homework.

Groups engaged the groups in a collaborative jigsaw activity to learn about the two pedagogies. I rationalized that they should know what the current research shows and "not just take my word" for the benefits of the teaching and learning strategies. After collaboratively summarizing their articles and "becoming experts" on their topics, I presented a PowerPoint presentation on Task and Transactional Processes of group communication. The groups were then assigned to engage in the transactional processes of forming group identities. They created group names, logos, and mottos. I then assigned the groups to design, plan, and present a review of their articles. This would serve for me as a pre-assessment of their collaborative and presentation skills, so I provided little structure or modeling. I had planned to present a PowerPoint workshop during the class meeting, but decided it was unnecessary because a majority of the students indicated they had the capability to utilize the PowerPoint application, and each group had at least one person who could serve as the technician for that task. Students spent the rest of class time discussing the tasks at hand.

After disaggregating the data from the surveys, demographics of the population sample of 30 students were as follows: 40 percent Male, 60 percent Female; 48 percent White (Non Hispanic), 48 percent Hispanic, 3 percent Asian, 1 percent African American; 64 percent ages 16-20 years, 25 percent ages 21-25 years, and 11 percent older than 25 years; and 95 percent full-time (carrying 12 or more semester hours) and 5 percent part-time (less than 12 hours). The survey resulted in a 100 percent indication of positive attitudes toward volunteerism and Service Learning. The students highly desired to engage in volunteerism. Only one out of thirty students

was currently involved in volunteerism, and two students indicated they had performed Service Learning, rating it as a positive experience. 75 percent of the students indicated they did not currently volunteer for community service or civic involvement because of a perceived lack of time.

The survey also served to identify the student participants' learning styles, and the basal levels of the student participants' knowledge about the course competencies and their levels of intercultural competency, a skill deemed necessary by the teacher-researcher as important to small group communication and Service Learning. All of the 4-MAT learning styles were represented, with 35 percent "Type 1-Innovative," 15 percent "Type 2-Analytic," 36 percent "Type 3-Common Sense," and 14 percent "Type 4-Dynamic." Intercultural competency results showed that 69 percent of the students placed themselves at the Acceptance level of Intercultural Sensitivity, 25 percent at Minimization, and 6 percent at Integration. Knowledge about the 24 course competencies averaged a 3.9 indicating "Very Little," with a range of two percent "2-A Lot" to 45 percent "5-None."

Additionally, the survey identified student concerns about campus and community problems and ideas for potential problems to be solved during the semester (Appendix I).

Reflecting upon the data in my journal, I felt comfortable with this new class of students and their initial interest in what this class would have to offer. The student concerns in the survey showed interest in a number of socially relevant issues, some small and some sizable in scope. The problem topics were also very diverse. I was excited to go forward with my study, knowing that I would have the opportunity to guide the students in selecting projects that would be realistic, but also relevant to their lives.

Class Four

Students used class time to prepare and rehearse their presentations. As I monitored the groups, I asked for their thoughts and feelings regarding their topics of either PBL or Service Learning. Students responded with positive comments about their articles and made remarks about how they were looking forward to being involved in the new strategies since there seem to be numerous benefits. Four students used the word "fun" to describe what they anticipated about Service Learning. Three students reacted with comments about how life is all about problem solving, and it would be good to learn how to solve problems in groups. One student wondered if it would easier or harder to do the problem solving collaboratively than individually. No concerns or negative reactions were expressed. I then moved to the final agenda item for class. Students received distributed the self- and peer-evaluation instruments they would be using to assess their involvement in the planning, preparation, and presentation of their articles. I explained that following each group project they would engage in this type of process, and that I would consider the evaluations when computing their grades. I sensed a feeling of comfort from the students as they reviewed the criteria. There were no concerns expressed.

Class Five

I arrived early to class to assist students as they arrived in putting their PowerPoints on the computer desktop to expedite the presentation processes. Several students had already arrived and were engaging in conversation about their presentations. When class began, it was apparent by observation of student verbal and nonverbal behavior that there was a degree of anticipation and anxiety that public speaking opportunities typically create. Students expressed to their group members how nervous they were and that they hated to speak in public. They paced, fidgeted, and showed "stone" faces, indicating nervous anxiety. I engaged them in a discussion of public

speaking anxiety and told them it was not my charge to rid them of the anxiety, but to help them to handle it. Three students in the class had completed either my Public Speaking or Introduction to Communication classes, and they shared their experiences and methods for reducing the anxiety. Students engaged in some tension reducing exercises, such as group shoulder rubs, isometric exercises, and visualization exercises. Finally, when I remarked that they should be comforted in that their group members would be up there to support them when in front of the class, I sensed they were more relaxed and resolved to undertake the activity.

The energy level was high, the groups seemed to "click," and the classroom technology was cooperating. I sensed a bonding of the groups as the members encouraged each other, and four of the six groups wanted to be the first presenters. The first group that fought their way to the front identified themselves as "The A-Team" and presented the article, "Problem-based learning: as authentic as it gets" (Stepien & Gallagher, 2000). They gave an overview of what PBL entails and how it differs from traditional teaching strategies. The second group, "The Stealers," presented a review of "Preparing problem solvers for the 21st century through problem-based learning" (Edens, 2000) and focused on the timeliness of the strategy. "Problem-based learning: the search for solutions to life's messy problems" (Checkley, 1997) was summarized and presented by the third group, named "Problematic" with an emphasis on discussing the role of the "messy" problem in PBL. The fourth group, "Women—no more, no less" gave an overview of Service Learning as presented in their article, "Serving to learn and learning to serve" (Sewall, 1997). The fifth group, "Human Dynamos," discussed what makes Service Learning different from volunteerism referring to their assigned article, "Make sure it's service learning, not just community service" (Burns, 1998). Finally the last group, "The Elite," presented the non-missionary and cultural relativity themes in Service Learning from "Service

learning and multicultural/multiethnic perspectives" (Weah, 2000). All the groups presented in symposium format and fielded questions from the class. As I experienced the presentations, it was obvious from the students' verbal and nonverbal clues that they were holding positive attitudes about these new learning strategies. I observed active listening with students giving legitimate feedback and asking meaningful questions, such as "What is wrong with having a missionary attitude in Service Learning?" One of the presenters replied with a statement from the article that defined "ethnocentricity," and said that as Service Learners we were not out to convert the world, just serve alongside them." Later, examining the videotape of the presentations confirmed my observations about student enthusiasm, as well as their learning about the pedagogies. Each of the groups had stressed the benefits of the new pedagogies with pleasant facial expressions and earnest voices.

At the end of the presentations, I asked the students for verbal feedback about their feelings about doing a problem-based Service Learning team project. "Let's roll!" was a resounding cry from one of the students. This now-famous call to action was followed by additional encouraging remarks and questions about the process. "This is going to be fun because it is so different than just taking notes in class" was a representative comment. "How are we going to be graded?" and "How do we begin?" were two questions. I explained that students would keep journals to record their actions and thinking, which would be assessed by particular criteria that I'd provide up front. Additionally, there would be self- evaluations, peer-evaluations, and group evaluations by myself to consider the appropriate grade for the project. Students received a copy of the list of the 36 community and/or campus problems they had identified on the pre-survey, including some which were additionally identified during this class.

They would begin the process by selecting one to two areas of interest and to conduct preliminary research regarding the problems prior to the next class.

Examining my journal, I had made reference to the "clicking" observed in each of the groups. Each of the groups had truly "owned" and valued their group identities. Bonding had already occurred. I wondered if the cohesiveness might impact the reforming of the groups for the PBL-Service Learning projects.

Class Six

During the sixth class meeting, the students discussed the targeted problems, and then I conducted a PowerPoint presentation on Selecting the Area of Service (Appendix J) and provided students with a visual organizer for taking notes (the PowerPoint outline for them to complete and annotate). Students then moved about the room to network and find common interests with the others. Five students exhibited initiative behavior by actively recruiting their classmates to join a particular cause about which they felt particularly strongly. Within twenty minutes, five, small groups were formed based upon their choice of problem, and these became the Service Learning teams for the semester. The selected problems were: the lack of awareness of organ donation, adult literacy, lack of exposure of local music groups, need for a computer lab assistance at an elementary school that services the homeless population in Maricopa County, and hunger/need for recycling.

For presentation of data on individual student participants, students identities were coded according to the groups they belong to, and by their seating positions in clockwise fashion beginning with the lead member (i.e. the member who initiated the cause): Organ Donation--O1, O2, O3, O4, O5, O6; Literacy--L1, L2, L3, L4, L5, L6; Local Music—M1, M2, M3, M4, M5, M6; Computer Lab—C1, C2, C3, C4, C5; Hunger/Recycling—H1, H2, H3, H4, H5, H6, H7.

The groups proceeded to select norms for their group, exchange e-mail addresses and telephone numbers, and identify and share with each other their special skills and resources. Their homework assignment was to further their discussion of the problem outside of class using the Discussion Board. Additionally, they were to read the Service Learning assignment (Appendix C).

Reflecting back to when I had used traditional PBL in the classroom, it was easy to contrast the initial enthusiasm when using that method with the contagion of the new practice in this study. While interest in the traditional PBL process was always apparent at the beginning of the semester in prior classes, the initial enthusiasm and excitement of my students this semester was much more obvious. I sensed the energy from their elevated voices and eagerness to share ideas. "Because we're going to do something real," "Because I'm going to make a real difference," and "Because I never would have had the time to do this in addition to my homework," were answers to my informal questions about why they seemed so excited. Each of the five students who recruited students to their causes expressed their personal interest in the problems. Student O1 has had two family members who waited for long periods of time before receiving organ donations. Student H1 shared a time when her family depended on federal assistance for food. She added that her recent research had shown that one out of five children in Arizona go to be hungry, and this had moved her to want to tackle that problem. Student C1 told of his personal contact with a teacher at the Thomas J. Pappas Elementary School, who informed C1 about overcrowded classrooms, especially the computer lab. Student L1 expressed her dismay that there are so many students on campus and in the community who don't speak English or who can't read at an appropriate level—yet there are so many students who are highly competent. She felt they should be helping those who are below competency. Students M1 and

M2 said their selected problem was not as dire as the others, but it would be helping local people who have musical talent and who aspire to share that talent. Additionally, student M3 said that he was excited about "getting off his butt and getting involved in something other than myself." Other students commented that they felt better that they would be conducting the service in teams, because they did not feel confident about doing such a project alone. I expressed my satisfaction and excitement to the students about their enthusiasm, the potential of their chosen projects, and the learning that could take place—by the students, and myself.

Before class ended I asked the students if they had experience with BlackBoard. All students replied affirmatively and I informed them that a forum for each group would be established by the end of the day. They were to use this communication device to discuss their projects with fellow members and myself. They were also welcome to visit the forums of other groups to give feedback.

While I had been enthusiastic to use PBL in prior semesters, data from my journal showed that I felt intensely more motivated about this new practice of using current, real life problems. The students' enthusiasm and genuine concern for the real problems affected me in a more meaningful way. "*I* could make more of a difference than ever before through these students!" My field notes produced data showing the early onset of cohesion between the group members. Each of the reformed groups contained membership from the prior group presentation projects. There were no comments voicing disappointment or complaints about having to reform. Examining student records, it was also inspirational to me that for the first six class meetings there had been no student absences or tardies. In retrospect, this data was atypical for prior Small Group Communication classes I had taught using traditional PBL.

During the interim between meeting six and seven, I examined the Discussion Board and read and analyzed the postings. All groups had postings from at least one member. Four postings expressed the excitement of their future ventures, but 13 out of 16 primary Discussion Board postings by members representing four of the five groups displayed questions and comments that I interpreted as confusion or anxiety about "what to do next." The following is an excerpt from a discussion between three members of the Hunger group:

> H4: "I'm not sure about how we are going to do this. I mean, do you just go in there and just do it? I mean, people are hungry everywhere, what are we going to do? What do you think?"
>
> H1: "Well, I have some ideas, and I'm the oldest one in the group, so I have experience in volunteering, but I'm sure that Mrs. Turner is going to have us go about it like the PBL way."
>
> H4: "Ya, I know we did the PBL article, but I'm still not sure what we'll be doing next.
>
> H5: "I'm getting a little nervous, too. This is really new to me, but we can ask her on Tuesday."

In response to the student comments, I posted the following statement on each group's Discussion Board forum: "I am sensing some lack of understanding of how we are going to tackle the problems this semester. All of you have such great ideas, and I will make the process clearer to you at the next class. Just hang in there and bring to class any ideas you have about your projects. We're in this together!"

Reflecting on the data and possible explanations, I realized that since traditional PBL assigns and delineates the hypothetical problem, however messy, this part of the process is typically already provided for the students. Obviously, in this innovative situation, there was need for more information and structure regarding the aspect of the assignment that required the students to choose, define, and substantiate the problem. I had assumed that they had the process

knowledge and critical thinking skills to successfully do so without more direct guidance, to just "jump right in!" Therefore, while the students were empowered to make important choices regarding their problems, my role would need to be more instructional in the process of how to go from problem detection to problem solution (the solution implementation aspect would be the engagement in the Service Learning projects). Upon reflection, I felt it was necessary to intervene and begin a new cycle in the study.

Summary of Cycle One

The duration of Cycle One was three weeks (six class meetings). During that time, students were introduced to the PBL and Service Learning pedagogies and their merits. The successes in the cycle included the successful completion of a jigsaw activity and group presentation project. Students efficiently reformed groups according to their interest in solving particular real life problems on campus and in the community and displayed immediate cohesion. Student motivation was at high levels as evidenced by no absences or tardies, enthusiasm, participation, initiative, and responsibility to group members. Teacher motivation was in concinnity with student motivation evidenced by high enthusiasm. The concern arising in Cycle One was student confusion about how to move from problem identification to problem solution. Intervention would be necessary to take the students through the problem-solving process that included the initial stages of problem definition and confirmation—steps not required in traditional PBL. Cycle Two began with developing a teaching tool and learning structure to assist the students in these analytic components, and a process for assessing their success in the process.

Data from Cycle Two

Planning

The concern arose in the prior cycle of Action Research that students seemed confused about the process for problem exploration. After evaluating the student activities and assignments thus far, I felt it necessary to provide a concrete structure for students to work through the problem-solving process, and for me to be able to assess their levels of success. After consulting with colleagues and referring to *Critical Thinking Concepts and Tools* (Paul & Elder, 1999), I synthesized the ideas to produce a team booklet, Problem solving: the process (Appendix K). The booklet would carry the students from identifying the big problem, determining what type of problem it was, to analyzing the problem according to DuFour (2002) SMART Goals—Specific, Measurable, Attainable, Results-oriented, and Timely criteria (Turner, 2002). Included was a process of using post-it notes to produce a working timeline for the project. Additionally, the booklet guided the research process, the identification of solutions, criteria for solution choice, and prompts for planning and implementing the solutions. This guide also provided criteria for evaluating the results and providing group feedback.

Class Seven

As students arrived for the fourth class meeting, they were rife with questions about the upcoming problem-solving process. I acknowledged that I had received several inquiries from class members prior to the class, and had developed a helpful tool to guide them. I also reinforced the students' communication efforts to make me aware of the confusion. Due to my enthusiasm at having provided a solution to their problem, I eagerly provided each group the bound booklet prepared for them to guide them through the process, record actions, and provide

feedback for the rest of the semester. The booklets would also provide a tool for measuring the college's assessed student abilities, communication and critical thinking.

Students received instruction that the booklets were to be returned to me at the end of every class (for purposes of data collection and safekeeping), and I would bring them back with me to every class for updating. I reviewed the contents of the booklets with the whole class and asked for feedback or questions to ensure clarity. There were no comments or questions at that point. Students began their first booklet entries of identifying and analyzing the problems in class, and their assignment for the next class meeting was to conduct research to evidence that the problem really existed. I walked around to, and sat with each group, monitoring their entry making. Before moving to the next group, I enquired of each group member whether the process was now clearer to him or her, or if there were any concerns or questions. Student H1, a 43-year-old mother, responded for the group that she felt that she had a "handle" on the process because she's been "solving problems longer than most of the students in here," but liked the booklet, and that using the "sticky notes would help her and the whole group to keep track of who's doing what." Student O2 stated "It's good to be able to see what the next step is supposed to be ahead of time, but also the whole picture from beginning to end." Student L3, an 18-year-old immigrant from Columbia, but fluent in the English language, offered "The booklet makes me feel better because all the people in the group will be helping. And I am learning all the new ways to do things. I never thought of the working on problems like this step and the next step. I think it is like mathematics."

The remaining groups also gave positive feedback and had no concerns or questions, including the group members who had called for help on the Discussion Board. I proceeded to present a PowerPoint presentation on "The New Leader" (e.g. Visionary, Transformative,

Inclusive, and Servant Leadership) and provided each student a visual organizer for taking notes. Each group then engaged in a discussion of the type of leadership they have encountered since beginning the problem-solving process and Service Learning project. Each group reported their analysis to the whole class. The Hunger group used their own group as an example and felt that each of its members were exhibiting Servant Leadership in how they have equally shared responsibilities and "are not out to become 'heroes' themselves." The Music group members also considered themselves as Visionary Leaders for their high-risk project to bring notoriety to local music groups. They announced the name for their group, "Big Heads," and that part of that name represents "the eyes" for the vision they have. The Organ group shared about the head of the Arizona Organ Donor Association and felt that she was a visionary leader in her quest to have organs available immediately, and affordably, for anyone in need of a transplant. Student O1 added that all the class members would be Servant Leaders when they complete their projects. The Literacy and Computer groups both observed Inclusive Leadership considering the diversity of people involved in providing student services, the students themselves at the college and in the migrant literacy program, and at the Pappas School. At the end of this class meeting, the groups independently identified individual tasks for their members to perform for their groups. I announced that I would put up a new forum on the Discussion Board for students from all the groups to post calls for help from each other or myself. Student M2 requested a forum for "just chatting" about topics not related to the course. His group members were especially supportive of the idea, and I responded in the affirmative. Inquiring what we should entitle the forum, Student M2 answered "Sam's Café." Student O1 replied that it should be something associated with the purpose of the class or the service aspect. There was agreement on this idea from several other class members. Students offered other suggestions. Student O1 suggested

"The Servant Café" and reminded the class about Servant Leadership. A consensus was reached in favor of the "Servant Café" via democratic vote. Additionally, the whole class was given text readings to prepare them for the next meeting's topic, "Groupthink" (Janus, 1984).

Examining the Discussion Board between this and the next class, conversations revealed no comments or questions about the problem analysis process in either the group forums or the "Help!" forum established for help requests. The "Servant Café" forum showed six postings, three by Student M3 inviting the class members to participate with questions such as "Whazzup?" and "Anybody seen a good movie?" Examination of my journal showed a sense that the concern had been addressed and dealt with in a satisfactory manner, thus far, and was pleased with the reactions of the students to the group booklet I had provided them. I was also pleased with my efforts and reflected, "Even though I am doing formalized research, I have always loved the monitoring and adjusting part of teaching. It's always fun for me to try to resolve a concern and try new things. Making the booklets and seeing the students eagerly making thoughtful entries is satisfying."

Class Eight

As I arrived 10 minutes early to the class meeting, four of the five groups had members present and they were discussing progress towards the Service Learning experience. I handed out the group booklets to each table. The Computer group was expressing frustrations about being unable to contact the principal of the Pappas School, and asked for my advice. I suggested making an appointment and meeting him in person. The Hunger group members were exchanging articles they had found and information received from local food banks to document the plight of the hungry in the local area. The Organ group was sharing web sites they had located regarding their topic, and I gave them a "Dear Abby" article from that day's newspaper

about the lack of awareness of organ donation. It also included an address, telephone number, and web address for an organ donation organization. Students L1 and L2 were looking over tutoring schedules they had obtained from the campus Learning Enhancement Center, a campus-based tutoring service for students. Students M2 , M4, and M5 were reading an article from *The West Valley View*, a local newspaper, by an EMCC alumnus who reviews movies and concerts. They made plans to contact him in their efforts to research the local music situation.

When class time began, all students were present and punctual, and we began a discussion on group conformity and the pressure to conform. Several students recalled times they were the victims or perpetrators of this type of pressure. I presented a short PowerPoint presentation on, and discussion of, historical disasters and less famous incidents of Groupthink. This led to an in-class jigsaw assignment on the indicators, causes, effects, and prevention of Groupthink. Each group role-played one of the assigned aspects of Groupthink, while discussing their Service Learning projects and making decisions. It was an opportunity for each group to learn about the other groups' endeavors, and to analyze the elements being displayed. At the conclusion of the activity, each group summarized how they could keep Groupthink from occurring in their groups this semester as they make decisions. "Sticking to our ground rules of everyone having to give their opinion" was related by Student O5, and "Making sure that we keep you [the teacher] up to date on our decisions so that you can tell us if we are going the wrong way" offered by student C1, were two typical comments.

At the end of class, students were reminded that they should continue their discussions and planning by using the Discussion Board. I also displayed the "Help!" forum for requesting help from other group members or myself, the "Customer Service!" forum for receiving student feedback about the course, and "Servant Café," the socializing forum. I encouraged them again

to read the other groups' postings to learn from them, and to offer suggestions. Students showed interest in using the forums by nodding and talking with each other. Student H1 asked what I expected for numbers of postings, and would they be graded on their posting numbers or content. I explained that these were communication tools to help them in their planning and follow-through of tasks, requesting immediate help when necessary, and for getting to know each other. There would be no requirements by me, but perhaps they could establish a group norm for postings. I gave them a reading assignment for the next class regarding nonverbal communication, and then allowed them the last five minutes of time to talk about the Discussion Board forums and next steps for entering in their group booklets.

Examination of the Discussion Board prior to the next class indicated that the Computer group was having difficulty getting a commitment from the school. The "Help!" forum called for ideas from student C1. He was frustrated with the lack of response from the Pappas School. The Computer group forum was attended to by all members resulting in a proposed amended solution to the problem, that they offer mentoring services at a local elementary school, or schools, instead of the Pappas School which is located 30 miles from the college, if they didn't receive any communication back from them before the next class meeting. Student C1 suggested they each contact a local school official before the next class to offer assistance and bring feedback to the members in case they had to develop another plan. All the members posted which schools they would contact, so as not to duplicate efforts. Before the next class, all the members had posted that the schools they contacted would be pleased to have student mentors in their computer labs, and/or in other classrooms.

Examining the student booklets after class, the Hunger, Organ, and Literacy groups had progressed in their analysis of the problem and solutions to initiation of solutions. I reflected

that even if the other two groups had not, that the time had approached for journaling about their learning. I reviewed the student Service Learning journal booklet (Appendices E, F, and G) I had prepared during the pre-planning in Cycle One, found it to need no revisions, and made preparations for disseminating it at the next class.

Examination of the Discussion Board showed postings by three students in the "Customer Service Forum" that were positive comments about the course. Student L3 wrote, "This class is better than I thought—I didn't want to take any communication classes because I'm shy and really scared to speak in front of the class. But we are in groups and I like that. I am being less shier [sic]. I really liked using the Discussion Board last semester in my computer class because I felt more easy about saying what I want to say."

Examining my journal, I showed concern about the progress of the Computer group, and was feeling their frustration. This was the group in which student C1 had yelled "Let's roll!" and his enthusiasm had been contagious with the other group members. I worried about their choice of problem and that they may have to start from the beginning to select a new problem that they could all be interested in. Would this affect their high motivation level? This could be one of the hazards or setbacks of using real life problems. The next class would be an important one for this group. Shortly before the next class meeting, Student C1 e-mailed me that he had successfully contacted the Pappas School's volunteer coordinator. He said he had also posted this progress on the Discussion Board.

Class Nine

Again, each group of students had several members arriving early to share their Service Learning planning progress. Student C1 informed his arriving group members that an administrator with the Pappas School had finally given an enthusiastic go-ahead to the group to

mentor students in the school's computer lab. The group members shared school and work schedules and worked out a mentoring schedule that would stagger them throughout the week. The Hunger group was also sharing information about logistics for the food drive they were organizing. The Organ group was at the computer looking at an organ recipient web site student O5 had discovered. I suggested the site could be very useful for the assignment they would be given that day. Student L2 was telling her group members that she wanted to work on the literacy project both on and off campus, and provided some ideas of how she could do so. Student M1 was sharing her experience of determining protocol for having a music event on campus, and said, "Boy there's a lot of red tape here, and maybe *that's* a problem that some group could attack sometime!"

Class began promptly at 8:30 a.m., and showcased the Discussion Board to reinforce the good communication efforts the students were engaging in. There was evidence of students using the Discussion Board to communicate results from assigned tasks and a need for one student to be absent from class but also a request for direction about what she should The Computer groups members reiterated their good news about making contact with the administrator at the Pappas School. Student L1 asked the Computer group if the Pappas School might have other needs, such as library books. The response from the group was that they'd inquire about other needs besides mentors.

The class participated in a discussion of their assigned reading on nonverbal communication in groups. I followed with a PowerPoint presentation on the six types of nonverbal communication and how they could improve their leadership through nonverbal communication. Students used a visual organizer for note taking. The lesson concluded with the giving of a collaborative assignment to research and present aspects of nonverbal communication

in the groups' targeted populations for each Service Learning project. Presentations would be due the following week during Class 12.

The final activity of the class was dissemination of the Service Learning Journal assignment, prompts, and rubrics to each student. I reviewed the contents of the bound document with the whole class and solicited feedback and questions to ensure clarity. Student H1 asked for an example of what a typical journal entry for each section might look like. I responded that there would probably be no "typical" entries, as everyone records from their own perspectives, in different settings, and in many situations. I reassured her that she and her group members would be comparing and contrasting their entries, and would be reviewed periodically to provide feedback. Students from the Hunger, Organ, and Literacy groups asked if they were at the point where they could begin recording and reflecting on their experiences. I responded that I had seen through their group booklets that they had begun to be engaged in the process of providing service to others and solving their problems, and, thus, they were ready to begin journaling.

Upon reflection of this class, I didn't detect any concerns regarding the classroom practices at this point. I was also relieved and happy that the Computer group could now move forward with their original plans.

Examination of the group booklets, however, showed evidence of progress in the problem- solving process by all groups except the Music group. The four other groups had progressed to solution selection, and/or planning of solution and/or implementation of solution. Reading those entries produced evidence of effective critical thinking and group communication skills, such as task analysis, timeline planning and adjustment, and assignation of responsibilities. Examining the Music group's lack of entries in the group booklet, and their few

postings on the Discussion Board concerned me. Student M2 asked, "Well, what are we gonna [sic] do now?" to which Student M4 answered, "We gotta [sic] do that assignment. But I don't know if our project is working." I immediately responded to the postings offering encouragement and support.

Reflecting on my field notes indicated there was little or no data indicating the same enthusiasm in, and participation by, the Music group in contrast to the other groups. I planned to focus my efforts on discussing progress with the Music group during the next class. I continued to reflect on my assessment of the student's critical thinking and communication skills and decided to utilize enquiry to obtain more data. I also wondered how the individual students were feeling about small group communication—both academically and experientially. The group booklets represented collaborative efforts, and it was too early to examine the student journals, so I decided to encourage the students during the next class to post their thoughts and feelings (anonymously, if preferred) on the Discussion Board "Customer Service!" forum.

Class Ten

This hands-on class consisted of updating group booklets and collaborative research regarding nonverbal communication. As facilitator, I sat with each group to receive the latest reports of the status of planning the Service Learning projects.

As the students planned, I joined the Music group and expressed my sense that they were not making the kind of progress they wanted. Student M1 said that her initial contact with the secretary to the Director of Student Services had not been in the spirit of cooperation, and even discouraging regarding having a music event on campus for local bands to get exposure. Apparently there was a $1,000,000 liability insurance requirement for any vendor or organization to present on campus, and that the bands would have to produce this documentation. The group

began to consider other options, such as playing the bands' CDs on the campus mall and passing out fliers. This option, obviously was not as motivational to the group. The group members were slouching, giving me little eye contact, and using lowered voices. Student M5 said, "We had this grand plan, and now we're just gonna [sic] pass out fliers. Not too exciting." Student M1 commented that compared to the other groups, their project "was gonna [sic] be really lame." I advised them to talk with the Director, herself, before making any rash changes in their goals, and if they had to change their goals, they had the power to make them exciting in creative ways. I pledged my support for whatever their efforts would be, and offered to personally advocate for them to the Director of Student Services and sent them over to her office to make an appointment.

The Computer group's investigation of nonverbal communication in homeless children would be primarily through a telephone interview with the Director of Volunteer Services of the Pappas School. They also sought information electronically. When I inquired about how much contact they had ever had with the homeless, each member answered, "None," except for an occasional panhandling on street corners experienced by all group members. Additionally, they all indicated they had little recent experience with school-age children. They felt it was going to be extremely important to research as much as possible in order to be effective mentors.

The Literacy group shared their tutoring schedules. I gave them the names and office numbers of two English as Second Language (ESL) faculty who I had communicated with regarding their project, and who offered to be resources for the students. The group then proceeded to continue their investigation of nonverbal communication in migrant and ESL students, interviewing the Director of the Learning Enhancement Center, and conducting research electronically.

The Organ group shared with me a plethora of resources, including donor cards, they had collected from various organ donor organizations, including donor cards. As they updated their booklet, it was apparent that each member had contributed significant paraphernalia and information regarding organ donation. Student O3 asked me, "Mrs. Turner, are you an organ donor?" I replied in the affirmative, and then asked them if each of them were. I was surprised by their replies. Only student O1 (the student who originally suggested the organ donation problem) had been a designated donor before the project began. The other students responded, "I am now," "As of last week I am," "I never was before, I don't know why, but I felt I had to do it if I was going to work on this project," and "I just signed one of those cards right before you came over to our table." They continued the discussion about how doing this project made them aware of something they had either ignored or never considered. They, themselves, read the literature dispelling myths about organ donation, and when going to organ recipient web sites, they had been moved to take action. Student O1, the one who earlier had said "I want to make a real difference" said, "Mrs. Turner, we have already made a difference in ourselves because these guys have made a commitment, and I'm even more encouraged now than ever." The discussion continued and the group members concluded that their next target for organ donation awareness would be their classmates. They planned to use personal testimonies from organ recipients to present the nonverbal aspects of communication in that population, present the facts about organ donation, and then make donor cards available.

Visiting with the Hunger group I asked how I could support and facilitate their undertakings. Student H1 said, "Thanks, Ro, but you know, this group is awesome. Everyone is doing their job and communicating, and I don't think we need anything directly from you." As they reconfirmed their dates of their upcoming food drive, I offered to send out an all-campus e-

mail announcing their efforts and informing about the location for the food receptacles. I then suggested they might bring one to the following class, along with their and my food donations to get the class involved. During the last ten minutes of class, sitting back and listening to their dialogue, I was astounded by their comments. Student H2 stated, "You know, this has really made me think about all the food and stuff I waste. What if everyone just ate what they needed to." Student H4 offered, "I think about how our pets eat better than some people. Do you know they have *gourmet* dog food that's really expensive?" The conversation continued with all group members commenting on how doing this project and putting in the time and effort, has changed them and their behaviors. I related to the group how I had also been affected by their commitment to this project and that I was more aware now of the needs of the hungry and my own wasteful habits. Each of us committed to bringing nonperishable food items to place in the collection bin during the next class.

When the group reassembled from their research tasks shortly before the end of class, I asked the students to please respond in the "Customer Service!" forum on Discussion Board about their feelings and thoughts about the class, so far, and in particular to their learning and feelings about small group communication, especially if they were dissatisfied. I told them that getting student feedback was an important part of teaching, and that I truly wanted to provide them customer service. At dismissal, the Music group reported that they had made an appointment with the Director of Student Services for later in the day, and that three members would be there for the meeting.

Upon examining the Discussion Board between then and the beginning of the next class meeting, there were no postings that indicated dissatisfaction by students with their learning or experiences in the small group communication class. Postings by three students, one each from

the Hunger, Computer, and Organ groups related to their excited anticipation of beginning, or getting more involved in, the projects. Other group members' responses showed concurrence. Postings by student M2 thanked me for "having some faith in us" and "encouraging our project even though its not so serious as the other ones." Two members of the group responded to him, "Hey it's not over yet" and "Lets be there for each other, man." Three members from the Organ group, and two members from each of the remaining groups responded offering encouragement saying, "I think your bands project is really cool" and "Hey, I wanna [sic] go to that concert! Don't give up."

A posting on the Discussion Board by Student H1 said, "You asked about learning, but also about feeling. I'm feeling good about this class. And I'm feeling good about what we are doing. I'm also feeling good about how my group really cares and also about how I care more now than before about what I can do to help feed someone." She was responded to by all of her group members with "Me too" type comments. Additionally, students shared comments about feeling good about how they are using their time, Student L3 said "I feel better working with my group members instead of alone because it saves time." Student M3 posted, I like just...*doing* something instead of doing nothing except what I have to do." Student L1 felt good about "getting to know people on the campus like at the tutoring center and how things are done. I'm not as nervous about asking questions. I even went to see the Honors Program person on my own to ask about my honors project," and Student H6, remarked "At first I didn't like having to actually go to the food bank, but I did it because I have the truck. I was glad when I went and I saw the hungry families sitting in the room waiting for their food. And the food bank person was so happy about our project. I felt real good."

Reflecting on the data, *I* felt "real" good. Other than the Music group's frustration and fears, the other groups were "on a roll." The group members encouraged each other, and groups encouraged other groups. My journal evidenced a personal resolve to help the Music group in any way I could, but I feared that it could be a "mission impossible." I again pondered the "real life hurdles of real-life problem solving that is real-life 'messy' and riskier than PBL." A number of entries also reflected my role as teacher in this PBL-Service Learning combination, and how much more active and involved I am in these real-life situations than I ever was when using the traditional PBL strategy. "I have to be there more for my students—in and outside of the classroom. There is more risk for me." I still felt the need for more data directly related to the small group communication competencies and motivation.

Shortly before the next meeting, the Director of Student Services e-mailed me with a report from her meeting with the Music group representatives. She indicated strong support for this student-initiated event, and that since the local bands would include a number of students attending EMCC, she would "look the other way" regarding the liability insurance requirement. She had directed the students to select a date, name the event, and provide her all pertinent information as it arose. She also suggested that I contact the EMCC Marketing Director regarding publicity for this event. Additionally, she reported that she had already met with a representative from the group holding the food drive and had approved the fliers for distribution on campus. I replied to the e-mail with gratitude for her support and encouragement, and suggested we keep each other "in the loop" with any developments.

Class Eleven

Arriving at the classroom fifteen minutes early, again students were busily sharing progress. I enquired of the Computer group about the status of their project and student C1 said

they would be participating in the required volunteer orientation at the Pappas School this week and that the group members were "chomping at the bit" to begin mentoring. I gave them an article from that morning's local newspaper about the homeless in the Phoenix area, and a photo of two schoolgirls having breakfast at the Pappas School. I suggested it might be helpful in analyzing nonverbal communication, as this picture was "worth a 1,000 words."

As the class time approached, one student was noted as being absent. The missing Student O5 had previously communicated with both me and her group members about a necessary out-of-town trip that would keep her from attending class. She said she would, however, keep in touch with the group members through the Discussion Board and complete her assigned task for the nonverbal presentations the next meeting. Out of eleven class meetings, this was the first student absence. I asked the class if they had noticed that absenteeism was virtually nonexistent in this class. One student remarked, "Mrs. T., you told us the first day that good attendance was required for this type of course because of the group work." I replied that in prior Small Group Communication classes, however, that attendance and punctuality (even when the class had been offered at later hours in prior semesters) had never been as good as during this semester. I asked specifically if they could offer other reasons for why they had been attending with such consistency, and also why they were always on time for the beginning of class. I made quick entries into my field notes at the close of class about their general responses about their feelings of responsibility to their group members, but also specific remarks about, responsibility to me, as their "caring" teacher, by Student H2. Other comments included the fear of missing lessons or group activities that have "consequences bigger than points or grades" stated by Student C1, and "not meeting my goals, or the group's goals," by Student O1.

The next item for class was a brief sharing of progress from each group. The Hunger group began by showing the class one of the collection bins that a local food bank had provided for the food drive they were organizing. Each group member had contributed the first items, and asked the rest of the class to bring items to the next class. The campus and community food drive would begin a week from today. They also shared information with the class about the upcoming United Way "Make a Difference Day" in which our campus would (for the fifth year) be participating. On October 26 from eight o'clock in the morning until twelve noon, one hundred EMCC staff, students, faculty, and their families would be boxing food items at a local food bank. They challenged the other groups to participate, and said they would pass a sign-up sheet around the class at the next meeting.

The Organ group reported next and said they had arranged to speak with the Director of Student Services regarding a health fair on campus. She had also directed them to an employee on campus who was a kidney transplant recipient, and who had organized similar events. They reported that the upcoming month of November was national "Organ Donation Month" and they were considering hosting an event on campus, but needed to contact the employee. The group had also collected enough paraphernalia that they could distribute to all the class members at the next meeting, including donor cards.

The Literacy group shared their tutoring schedules with the class, and they would begin tutoring this week. They also had made arrangements to talk with two ESL faculty for resource support. Student L1 suggested that her honors project might deal with literacy.

The Music group reported excitedly that their meeting with the Director of Student Services had been very positive. All the group members exhibited enthusiasm with smiles and expressions of pride. She said she would have the insurance requirement waived, since this was

a Service Learning experience. She also gave the group a campus calendar and asked the group to set a date so that it could be reserved. I then informed the group that I had been in communication with the Director, and likewise, she had been very encouraging. I announced, "The music fest is a go!" and the class burst into applause. Student M3 said he would be confirming availability with the bands that he had already contacted, and Student M1 remarked that they needed their group booklet to make planning entries

The Computer group reiterated the information they had given me prior to class, and Student C2 made a comment that she could "hardly wait" to begin working with the children. The other group members nodded in agreement. Student C5 had made a site visit and met the computer teacher. He reported that the teacher holds 30-minute classes, and each lab is full with over 30 children, from kindergarten through fifth grades. The teacher stated he is "overwhelmed, and grateful for any and all help he and his students will be receiving." Student C1 stated that their group, and other volunteers are "truly needed" at that school.

Class proceeded and I gave a description and explanation of various public meeting formats using PowerPoint. Students took notes using a visual organizer. Groups selected one of the formats on a first-come, first-served basis, so that the class would be exposed to five different types for the nonverbal presentations. Students used the rest of class time to structure and choreograph their presentations according to the chosen formats

Reflecting upon the group's activity in the problem solving process, I felt they were proceeding successfully. It had been, as anticipated and planned for, more involved, and time consuming than providing them a hypothetical situation requiring less primary research. But their personal involvement in the process had been more evident than in any other class I had ever taught. The student participants and I had observed evidence of motivation—attendance ,

punctuality, enthusiasm, initiative, and responsibility during this second cycle of research. As midterm approached, the crux of this study would be the effects on motivation of the students and myself when students continued to be engaged in real life problem solving, as opposed to traditional PBL.

Another reflection was that the student groups were displaying the initiative to make their projects more public. The Organ group wanted to create awareness on campus by being involved in a health fair, manning a vendor table on and off campus to disseminate information, and perhaps host a campus event. The Music group wanted the campus to host a public relations event for local talent, for which publicity on and off campus would be necessary. The Hunger group would be holding a food drive on and off campus, and might also require media attention.

All of these student initiatives would require proper protocol through the Student Services and Marketing departments on campus. I felt pressure on myself to appropriately direct and facilitate the students as they embarked on the increasingly complex endeavors they envisioned. My concern was that as they followed through with their visions, I, as their facilitator and advisor, might have limited knowledge about the proper channels. Considering that there were still 23 class meetings left in the semester, I felt the need to better guide the students through these more complicated, real-life processes. This reflection led me to the second cycle of action research.

Summary of Cycle 2

The duration of Cycle 2 was two and one-half weeks (five class meetings). During that time, students engaged in a structured process of problem identification, documentation, and analysis using the group booklet tool they had been provided. Each group progressed in the process at differing rates. The Music, Computer, and Organ groups were entrenched in the task

analysis and planning stages due to the need for external networking. The Hunger group reached the solution implementation stages with the food drive in place (though the recycling aspect was still at the planning stage), and the Literacy group was implementing their solution ever since tutoring began. The student and teacher participants faced, through the Computer group's initial frustration with contacting significant personnel at the Pappas School, and the Music group's innovative and risky ideas for a campus event, that real-life problem solving has its hurdles than can, and in this case were, been cleared.

Students also learned about contemporary leadership approaches, Groupthink, nonverbal communication, and types of public group presentation formats, and had integrated that knowledge into their projects and presentations.

Reflecting on this cycle, I felt students showed tremendous vision and I saw them set goals that would take their projects way outside of the classroom, onto the campus, and into the community. The groups displayed initiative to make their projects more public. Their intentions to host a health fair, a music fest, a food drive, and recycling project would require enlistment of services or direction from various campus personnel. A momentum built that caused me to feel the need to be proactive as their facilitator in order that the problem solutions could be implemented while respecting campus protocol and proper procedures. The next cycle of Action Research needed to deal with my dual role as student facilitator and faculty on campus to ensure a smooth implementation of their solutions.

Data from Cycle Three

Planning

My concern was that the student projects were growing in scope far more than I originally anticipated. There were many factors to consider as the groups' initiative was

increasing with each incremental success. I sought, therefore, to more formally involve those persons who could guide the students and myself through protocol processes, and provide ideas from their perspectives. I contacted the Student Services Director and the Director of Marketing and shared the progress my students were making and goals they had determined in their problem solving and Service Learning endeavors. They expressed gratitude for my consideration of their positions and expertise and offered to assist any of the groups. I felt it crucial for me, however, to be involved in the communication—to learn along with the students, and to be able to track their activities. Both Directors offered to attend an upcoming class meeting to answer questions and give direction. While two of the groups were not engaged in the same type of projects as the Music, Organ, and Hunger groups, I felt they could appreciate, and potentially benefit from the information. The Marketing Director also indicated an interest in issuing a press release, or inviting the media to report on all the group projects in this Small Group Communication class. This would be an opportunity for her to get more detailed information. I also developed a visual tracking device that would help the students and me to better see the global picture of the projects as tasks were identified and assigned (Appendix L).

Class Twelve

The purpose for today's class was for the groups to present their analysis of nonverbal communication in their targeted populations. I arrived twenty minutes early to class to assist the Organ group in setting up the DVD equipment for their presentation. Other group members began arriving early to make last-minute preparations.

At the appointed class time all students were present, and the Organ group volunteered to present first. Using a symposium style, the group showed excerpts from the movie, "John Q," which tells an emotional story of a family unable to afford transplant surgery for their son. Each

group member analyzed a different type of nonverbal communication evident in the family members and the sick child. One example was how the sick child's paralanguage dramatically changed, communicating a deteriorating state of health. Another was the proximity of the hospital administration to the parents when refusing to put the child's name on the list for donation. The presentation concluded with each of the group members dispelling a myth about organ donation, such as the fear that medical help for an organ donor is substandard because the doctors want the organs. During the question and answer forum, student L4 asked about the process for becoming an organ donor. Student O3 responding by asking the class audience how many of them were designated organ donors. Eight students and myself answered in the affirmative. He then asked why the remaining students were not. Four answered aloud simultaneously that they had never been asked. Student O1 then answered the question about the process and explained that the Arizona Department of Motor Vehicles (DMV) has the paperwork available when driver licenses are applied for or renewed, but they do not normally "push the issue" and many times "wait to be asked." This information, Student O5 claimed, came from interviewing a DMV manager. She stated that this was one area the group had considered exploring further in their quest for organ donation awareness. Student O6 then disseminated various paraphernalia about organ donation, including organ donation cards. All the students who had indicated they were not organ donors asked for cards.

The Hunger group volunteered to present their panel discussion next. They interspersed their discussion with PowerPoint slides that included images and sounds depicting each of the types of nonverbal communication. The images were taken both from web site collections and photographs from a site visit to a local soup kitchen by student H6. When the group discussed distance and touch (proxemics and haptics), their analysis included reference to Maslow's

Hierarchy of Needs. Their point was that when humans are at the lowest levels of need, Survival, Food, Clothing, and Shelter, they are distant from other humans and do not express physical affection (as would be the case if their needs were at the higher levels of Love and Belonging). The discussion ended with a question and answer forum and a plea to their peers to contribute non-perishable items to their upcoming food drive. Student C3 stated that he works at a food distribution center that contributed to a local church, and that he knew that they would be willing to help in the food drive. Student H1 asked for, and was given, the contact name and phone number. Finally, the Hunger group announced that the campus would be involved in the United Way "Make a Difference Day" on October 26 to work at a local food bank, and a sign-up list was passed. Eighteen class members signed up immediately, and four said they would need to check their calendars.

The Literacy group presented a live performance in the form of a skit that depicted inappropriate and appropriate nonverbal communication of a tutor. Students L3 and L4 co-narrated the skit. Student L5 portrayed a tutee, and Student L1 was the tutor who arrived late to the appointment (chronemics), sat three feet away and across from the tutee (proxemics), looked away often from the task at hand (kinesics), and showed frustration in her voice (paralanguage). The scene ended with the tutee appearing dejected and confused. In the second scene Student L2 was the tutee and Student L6 was the tutor displaying appropriate nonverbal communication. The tutor arrived on time, shook hands with the tutee (haptics), sat near and alongside the tutee, gave consistent eye contact, and used reassuring tones of voice. The tutee expressed delight in learning, and gratitude for the experience. The presentation ended with each of the group members sharing their first tutoring experiences with the class. Student L3 expressed, "I thought it was going to be hard to do 30 hours, but I worked with my student for two hours on just one

homework assignment. It was a lot of fun when she finished, and I felt good about helping her." She also added that it helped being bilingual (English and Spanish) because her tutee was from Mexico and limited in English proficiency. The other Literacy group members also expressed positive feelings about their experiences thus far.

The Music group presented their nonverbal analysis via multimedia performance. They delineated the categories of music—Punk, Rock, Rap, Country Western, and Jazz—and contrasted the nonverbal aspects of the performers and the fans while showing video clips of music videos and concerts. The most distinguishing characteristics between the musical groups was clothing and artifacts, and the group members led the class in a guessing game as to what items related to each type of music. The presentation ended with the group announcing enthusiastically that they had "cleared the red tape" to get a music event on campus in either November or December. They asked the class for help in locating and soliciting musical talent, and in determining what date would be best. Class members were given surveys to distribute to bring back to class the following Tuesday, and were also asked to circulate fliers seeking potential music group participants. The Music group announced they were in the process of setting up a web site, but they already had an e-mail address for suggestions: BigHeadTalent@yahoo.com. , and were setting up a web site: www.geocities.com/bigheadtalent/ Student M2 also offered a suggestion, that perhaps at the music event each of the other groups could have a booth or table—to offer information about organ donation, to collect non-perishable food items, and to recruit student tutors for the following semester. At this suggestion, the groups excitedly began discussing the possibilities, and I could sense the tremendous energy and passion in the room, and envisioned the tremendous potential for each of the group's causes.

With only fifteen minutes left in class, I asked the Computer group if they felt they had enough time to conduct their workshop. The consensus was they preferred to postpone until the next class meeting. The groups that had presented were given the self, and peer evaluation instruments (Appendix M) to assess their performance. The groups used the remainder of class time to further plan and network with each other. I took advantage of the time to engage in enquiry. I rotated to each group to first give them positive feedback about their presentations, and then I asked them about what was motivating them to carry on their projects. In the Hunger group, student H1 looked at me directly in my eyes and said with strong presence, "Mrs. Turner, I really like the way you teach. Everything is hands-on and so practical. At home the other day I said the term 'haptics' when my husband and I were watching our kids playing tag. And just yesterday I was at a meeting and thought about how the leader really needed some help and that we, the other committee members needed to step up to the plate. I think about what we are doing all the time." Student H3 said, "I think we are motivated because we all feel passion about what we are doing." Student H2 agreed and offered, "How could we *not* be motivated? And seeing the other groups and how they are just makes me want to do even more and be better." Student H1 reiterated a comment she had made earlier in the semester about how in this group *everyone* is a leader and does their job: "When we first began, I had this great idea about feeding hungry children, and I didn't have any idea that anyone else would feel the way I do or make the commitment to really do something about it."

I made my way to the Music group and asked a similar question, "What is motivating you to persevere and take the risks you are taking to pull off this big event? Your group has the riskiest, but also a very innovative, project." Student M2 answered, "Well, it was more risky before, but now that we have the okay of the college, we can really make it happen." Student

M3 said, "I think it is neat that we could pick a project that didn't have to be about depressing things, I mean it is cool that the other groups are going to be helping people in trouble, but there are other things that are important to us. I'm glad our group felt that this was worth something—and only one of us is even in a band." Student M6 responded, "Ya, I play in a band, but I think it will be cool to help all the west side people who just want a break, but there is no place except a garage or birthday party to play at." Student M2 said, "And it'll be cool for the students at Estrella, too, because we don't have any kind of happenings during school like they do at ASU. We suck. Maybe it will be a way to relax or get pumped up before exams." Student M1 said, "I'm more excited now than ever because it is really going to happen. I could have never done this by myself, and at first I didn't even think we as a group could do it. So now, its like there's no turning back. We *have* to be motivated."

Class time ended before I could enquire of the other groups, so I announced a new Discussion Board forum topic about motivation, and asked everyone to respond before the following class time. I also announced that I would bring a new tracking device to the next class to display the group's progress and next steps.

Examination of the self-evaluations showed that students felt they had improved since the last group presentation project in several areas: leadership and helping leadership, confidence to assert themselves, organization, problem-solving, and reduced anxiety about public speaking and functioning within a group. They set goals that included the continued building of relationships with group members, more networking between the groups, more communication between group members outside of class, and actual engagement in the service project with the targeted population.

Examining my journal of the week's experiences, together with field notes and the Discussion Board postings, it was apparent that the student's motivation was more than maintaining—it was increasing. The Discussion Board prompt read, "Regarding this course, how would you rate your motivation level at this time? 0 = None, 1 = Little, 2 = Some, 3 = Average (about the same as for other courses), 4 = Above Average, and 5 = Very High. Please explain your rating." Eighteen students answered the prompt with an average rating of 4.8, indicating a very high motivation level. Representative explanations included, "Because I'm doing something that is really going to matter," "Because I see everyone else all pumped up," "I am liking that I don't have to read so much and study for tests, but instead I get to do stuff, "Because the Mexican lady I am working with said she wanted just me to be her tutor and she would always be there when I am scheduled to work," and "Because I see our teacher excited about what we are accomplishing and she really believes in us."

Reflecting on my journal entries, three of the groups are still in the problem-solving mode and have not yet reached the service providing stage, yet, I sensed that they had become close to their selected problems, and had taken personal ownership of the intended solutions. Beyond that, my journal clearly shows that I, the teacher-participant, was at the highest level of motivation for teaching than I could ever remember: "I've found *GOLD*," "I want to be the best I have ever been!" "Why am *I* motivated? How could I *not* be motivated? My students have already made a difference—in themselves, in me, and in others!"

Class Thirteen

I arrived to class fifteen minutes early. All members of the Computer group had arrived and were placing wireless laptop computers at each table in preparation for their nonverbal communication workshop. As students arrived I called their attention to the progress tracking

matrix (Appendix L), and projected on the screen. When class time began, I announced that one representative of each group would be responsible for recording their group's status and next-steps during each of the class meetings through the end of the semester. Included in the matrix was a section for my own tasks that would support the groups' efforts, on which students could feel free to make entries. I explained that "big" management was not a skill I felt I possessed, and essentially, I was becoming a project manager as their projects were becoming bigger in depth and breadth, and requiring the support and direction from other college personnel. I sought to improve my, and the student's effectiveness through the use of this organizational tool. Additionally, while the students had been keeping a timeline and agenda in their group booklets, the tracking matrix would expose all groups to each other's progress and needs. A representative student would also print out copies of the matrix for each of its members towards the end of each class meeting to keep them abreast of tasks at hand. Student C1 suggested, "Why don't you put it on BlackBoard," (instead of us printing copies). While I thought for a moment, students voiced support of this idea. Of course, this was a much better idea. I responded that this process would definitely be more efficient and they could still print copies if they needed to from the BlackBoard site. I modified my directions so that printing was not required, and the matrix would be located in the "Course Documents" area of BlackBoard for students to refer to after each class. But I also encouraged the students to be responsible for doing so on a regular basis to ensure they were following through on their task assignments. I then modeled an entry using the Hunger group's input. I asked them for their progress report, and they reported that the food drive on campus and at local grocery stores was in "full swing" and to remember to contribute to the class bin. Each member was aware of their responsibilities of checking the bins, emptying the bins, and delivering the items to the food bank. Their new task at hand was to further

research the recycling aspect of their project. I asked what their deadline for this research was and who was responsible. Student H2 replied that he would call the City of Avondale to find out if the college was included in the city's new recycling program, and he was scheduled to meet an employee on campus the next day who had previously worked for a recycling company. He said he was responsible for leading this venture. He said he would have he information by the next class. I asked him how I could support the effort, and he asked me to contact a faculty member who he had talked with to find out the name of a recycling company he was familiar with that provided free services. I told Student H2 that I would get the information that day and e-mail him. I filled in this information on the matrix (Table 4) as such, except that the student's true name was entered:

Table 4: Group Progress Tracking Matrix—First Entries

	TASK	DEADLINE	WHO	DONE
HUNGER	Recycling research—Campus, City of Avondale	10/10	(H2)	
ORGAN				
COMPUTER				
MUSIC				
LITERACY				
Instructor	(H) Ask Mr. J about recycling co.	10/8		

To ensure clarity, I asked the class if they had any questions, concerns, or feedback regarding this new tool. Student H1 asked if they would be graded on the daily entries and I responded that I didn't think it was necessary to do so, that this was a tool to help keep us organized. I said that if I found that the groups were not making use of the tool on a regular basis, it could jeopardize our effectiveness, and if that happened, I would then have to deal with the groups individually. I asked if there were additional suggestions to improve the tool or the process. There were none.

The Computer group members readied themselves to present their workshop. They began with brief overview of the types of nonverbal communication and a PowerPoint presentation of their research findings regarding the homeless. Their research was conducted electronically, and via interviews with two personnel at the Pappas Elementary School. Their most significant findings regarded haptics, proxemics, and paralanguage, and the caution they would have to take regarding touch, space, and use of voice. Some children exhibit and desire intimacy, and others do not, so they would have to be sensitive to the student's initiative and reactions. The workshop followed with each group member acting as tutors, and the class members playing roles of children ages 8 to 16 years. The tutors showed the appropriate type of nonverbal communication they would need to display in the real setting as they guided the class members though an educational software program.

Following their presentation, the group was allowed time to engage in their group, self, and peer assessments (Appendix K). While they did so, the Hunger group passed around the sign-up list for the United Way "Make a Difference Day" at the West Side Food Bank, and I related my experiences when participating in prior years. I also spoke about how, since the beginning of the semester, I had become more active in my local Rotary International Club by volunteering to lead a literacy project, and participating in an upcoming road-clean up event. I also related that I had volunteered to serve on the college's United Way committee, and was a "Pacesetter donor." I was also investigating being a "lunch buddy" for Big Brothers/Big Sisters of Arizona. I attributed my inspiration to these renewed efforts to the members of this class. Student H2 remarked, "Well, that's cool, because if you can do those things while going to school and teaching here, so can we." Student C1 said, "Well, you're practicing what you preach."

The class continued with a short PowerPoint presentation on the day's new topic of Active Listening. Students took notes using a visual organizer. An assignment was given, due in one week, to analyze their own and others' "unlistening" (Gamble & Gamble, 2002, p. 191) behavior when engaging in small group dialogue. Groups had ten minutes left in class to process their Service Learning progress, and each group selected a "progress reporter" to record status and next steps on the tracking matrix, and print out copies. I also reminded the class that a potluck breakfast was scheduled for the class in one week. I spoke about the irony of the situation that we would be involved in a food drive for the hungry, but we would be "pigging out" during that class." It brought to my mind, again, the awareness that the student projects were creating in all of us.

Examining the self-assessments of the group members reinforced the indications of high motivation present in the other group members. With no exceptions, students gave themselves excellent ratings for participation, responsibility, leadership, and helping leadership. Student C1 reiterated his comment made during Class 11 that he was "chomping at the bit to get going on the mentoring." Goals for this group included getting the mentoring schedule "written in stone" during the orientation, and getting through the orientation. Examination of the student self- and peer-assessments from all the groups showed, with no exceptions, highest levels of participation and responsibility to the group. The ratings and comments concurred with my observations of the groups while they conducted research and prepared for and participated in the presentations. I stated in my journal regarding this presentation assignment, "There are no 'slackers' in this class."

Examining the tracking matrix of the groups showed that each group entered their tasks to be accomplished, deadlines, and persons responsible. My tasks at hand included making the

arrangements for the class visits by the Directors of Student Services and Marketing. While I recorded no data about the efficiency of the process, recalling the end of class, I was pleased with it. Students followed the directions and took the responsibility of keeping a comprehensive class "to do" list. I was also comforted by the assistance this could give me in more effectively tracking the projects.

I reflected in my journal about deciding to begin my doctoral program and how it was partly due to the responsibility of role model lifelong learning (which I expect of my students). Similar to that ethical decision, I felt the need to model the service attitude and behavior I expected of my students. When I related to the class the volunteer activities I had recently taken on in my own life, I did so only to give them credit for instilling in me a greater passion for giving. I was driven beyond awareness of problems to taking action. I felt that providing the support to my students beyond the classroom walls as they engage in their real life projects was also part of my role as their teacher.

I arranged for the Director of Student Services to visit our class during the next class meeting, and the Director of Marketing would speak during the following meeting. I also talked with the faculty member who had knowledge of a private recycling company, and I e-mailed the information to Student H2. He responded to me that he had received names of two other companies by the campus employee. He said that after he talked with city officials, he would be able to make a recommendation by the next class.

Class Fourteen

Prior to the beginning of class, as was now typical, group members had assembled themselves before the appointed time and were engaged in discussing their projects. I observed that the class food collection bin was full and in need of emptying. Student H5 stated that this

was his week for food collection, and tthat he would take care of it. I passed around the "Make A Difference Day" sign-sheet, and to date, 23 of the 30 class members signed up to work at the Westside Food Bank on October 26.

The Director of Student Services arrived promptly and began the informational session by asking each group to explain their project goals. She offered procedural suggestions and ideas, and provided names of personnel for networking. The Hunger group reported that their food drive was in progress and that they were ready to work on the recycling aspect of the project. The Director provided ideas for resources to assist with collection, and suggested the name of a college employee with experience in recycling. Student H2 responded that he had already spoken with her, and that he was going to recommend working with a recycling company she recommended because the city of Avondale's new recycling program included only residential properties. The Director challenged the group to determine a process for maintenance of the project beyond the semester, when they would no longer be enrolled in this Service Learning course. She informed the group that recycling efforts on campus in the past had not been sustained. I reinforced the challenge and suggested that this could be another "problem" the group could tackle as part of their project. The group members were eager to further discuss the issue, but the Director asked if she could get input and questions from the other groups. I remarked that there would be time before class ended for the groups to process new ideas.

The Director asked the Music group about their status and gave them advice about the logistics of their music event and parameters for behavior by the groups and audience. She provided them the name of the audio-visual contact on campus. Additionally, she said that she would take care of communicating with the Safety Office regarding security for the event. She invited a representative of the group to attend the upcoming interclub (leadership from all

campus student organizations) meeting to announce their event and the opportunity for campus organizations to raise funds at the event through food sales. Student H3 and H4 committed to attending.

The Director encouraged the potential for the Organ, Hunger, and Literacy groups to market their causes on campus, and gave them the protocol for doing so.

Before leaving the class, she handed out insurance liability forms that would cover the college should an accident occur while the students were engaging in Service Learning activities off campus.

The volume in the classroom was high as each group processed the information provided by the Director. I observed and recorded active involvement in the discussion by all members of the groups, and some of them were "fighting to get their words in edgewise." Observing the wealth of excitement as the groups discussed the new ideas and new tasks to be accomplished, and considering there were less than 15 minutes remaining in class, I postponed the lesson for the day, Conflict Management. I projected the tracking matrix on screen and reminded each group to post its new entries following their discussions. I joined the Computer group in their discussion of how they could be involved in the music event. "What kind of a booth or table could we have that day?" asked Student C4. Student C1 suggested that perhaps they would hand out information about the Pappas School. Student C4 responded, "But how would that help the school? Do we ask for donations?" I suggested that they ask the Pappas School administrator for ideas. Student C1 volunteered to call, and Student C2 said, "Put that on the list before we go." I walked around to the other groups and reminded them about the scheduled potluck breakfast for the next class and to bring their food items. I also announced that I would collect the student journals for assessment during the next class.

Prior to the next class, I received an e-mail from student C1 informing me that the Director of Volunteer Services from the Pappas School would like to visit our class on the following Tuesday. After giving a presentation about the Pappas School, she would indoctrinate the Computer group members regarding their responsibilities, as the formerly scheduled orientation at the school was postponed due to a school holiday. I responded affirmatively that it would be very advantageous to the whole class to hear about the school. This was another example of students being empowered and taking ownership of their projects. I arranged for the multimedia technology the guest speaker would need and informed the Director of Marketing of this development. She responded that she would like to attend the Pappas presentation.

Examining the Discussion Board brought forward an interesting perspective from student M4. He stated, "Hey, what's all this downer stuff—I'm sitting next to starving kids, and people who don't read, students who are homeless, and people who are sick. I'm glad I'm in a group that is dealing with some lighter stuff, man. Don't get me wrong, we need to help those people. But we also need to just get involved and make progress, man. I hope nobody in class thinks our group doesn't care. We just see another type of need. At least we are doing something. I think that's being a good citizen instead of always complaining." He received responses from 12 class members from the other groups that reinforced the Music group's efforts and thanked him for just "getting involved, which is more than most people do. "

Reflecting upon the excitement of the class, and internalizing the Discussion Board comment of student M4 surfaced the idea of involvement and citizenship—which goes beyond awareness. A theme was possibly emerging about student perspectives on citizenship.

Class Fifteen

When I arrived at the classroom, all members of the Computer group had arrived and were talking with their guest speaker, the Director of Volunteer Services from the Pappas School. As other students arrived, they arranged their food items for the potluck at the designated table. When the EMCC Marketing Director arrived, I invited both guest speakers to join us for breakfast, but they did not participate. I directed the students to quickly serve themselves so the speakers could begin.

The speaker presented a video of a "60 Minutes" television report on the Pappas School. Students and myself were visibly moved by the interviews of several homeless children who called the school "my home." Students sniffled, wiped tears, and sighed. Following the video, the Director answered questions and then informed us of the types of volunteer opportunities at the school. Some of the needs were for mentoring, activity planning, non-perishable food, hygiene items, clothing, books, and toys. Student C3 stated that her group had wondered what they could do at the music event for the Pappas School. "Maybe we could do a clothing drive or collect toiletries, she suggested." Student L1 addressed the Computer group and said that maybe her honors project could be a book drive for the school. Student H2 added to the discussion that perhaps their Hunger group could target one of their weekly food collections for the Pappas School. I encouraged them to continue the discussions in their groups following the speakers. The Computer group then met privately in an adjacent classroom with the Director for 20 minutes to participate in an orientation and complete the requisite paperwork.

The college's Marketing Director was the next guest speaker, who showed the class an organizational chart and a flow chart depicting chain of command and the process for involving the media in campus affairs. She also showed the students where they could download approved

templates from the EMCC home page to use for various modes of advertisement. The Organ group had already met with her and had designed a pamphlet about organ donation that utilized appropriate EMCC logos, colors, and fonts. The Marketing Director praised the brochure, but added that they should identify themselves as the sponsor, perhaps "Brought to you by Fall 2002 Small Group Communication Students at EMCC." The Literacy, Hunger, and Music groups took careful note of these required aspects for advertising their causes. The Director offered any assistance in both approving paraphernalia that would be given off campus, and offered the groups an opportunity to be interviewed by the local newspaper about their projects. Students were in general agreement that they would prefer to wait until November, or the end of the semester when their projects would be complete as they would have more to report. The Director also asked the students to provide her dates of events and she would have them published in community notices in local newspapers. Additionally, she suggested the students utilize public service announcements on radio.

Observation of the students showed they were enthusiastic about taking their initiatives off campus and having marketing support. Their verbal and nonverbal behavior showed energy with high volume, active participation, and animated discussion of new ideas.

The Computer group rejoined the class as the Marketing Director was leaving. I asked the groups to compare and contrast their journals, and to make any additional entries, as I would collect them to examine and assess. I encouraged them to self-assess their entries using the rubrics I had provided, and to refer to the verbs associated with the higher levels of Blooms levels of thinking, also included in the journal booklets. As I monitored the discussions, I observed students enthusiastically sharing their entries, giving each other suggestions, and making revisions. Student H1 stated that doing the journals was instrumental in helping her

apply course concepts in her own life and that her husband "is learning right along with me because I use the terms at home and he asks me to teach him what they mean." Members of the Hunger group concurred with her comment and talked about the journals being a good learning tool. Student L3 stated that she had shown her journal to the student she is tutoring on a regular basis, and the tutee suggested that she might also begin writing about her learning. Student L3 asked if I could give her an extra, blank journal that she could adapt for the tutee. Students O1 and O5 stated that they had used the journal to record their feelings, in addition to the course concepts, as they have become aware and committed to the organ donation awareness project. I reinforced that those types of entries were appropriate. I then collected the journals for later review.

The next activity was the final collection of data for this study through enquiry. I randomly selected one student from each group to be formally interviewed. I made the selection by using names on cards from which I blindly drew. Students H3, C2, O5, L3, and M2 were selected. I gave the remaining students a questionnaire with questions identical to the interview questions for them to complete while I would be conducting the interviews. I reminded the groups that if any new decisions were made that day and new tasks were identified, they should put them on the tracking matrix and print copies for their group members. Before I began the first interview, I asked the other interviewees to engage in clean-up efforts from the potluck, which they agreed to do. I then began interviewing Student H3. The interview process went beyond the class time, but the remaining two students finished them later in my office.

The interviews yielded little, if any, new data, but rather, reinforced prior data. Student H3 reported that her leadership had improved because "we all had to do something in order for the project to work. We are a team and had to help each other, and even when we were helping,

we were leading." She also felt that her and the group's "passion" was responsible for making it easier to communicate in small groups because they "got close to each other." She also stated that she is "more comfortable working in groups in my other classes now. I think its because doing it in this class makes me feel like I know how, like I should be the expert. That makes me feel more confident." In responses to the question about teacher motivation, she answered, "You were excited since the beginning, but when we chose the problems you were really excited. And then the first time when we brought our bin to class, you were so happy that we had really done it."

- Student C2 stressed the importance of relationships in his group and that Student C1 had been instrumental in keeping the group going with his e-mails to them. "I think the fact that he was so on top of it the rest of us felt like we couldn't disappoint him, like I wouldn't want to disappoint my dad...he is older than us." He also remarked about the team quality of his group, that each had their strengths and weaknesses that the others could use or "fill in for." "I don't think I could've even thought of this project myself. I just like computers, am a geek, and this was the closest thing I could do. I'm nervous about working with the kids, but I know I can do it." Regarding teacher motivation, he stated, "I thought you were different on the first day because usually we just read the syllabus with the professors and they try 'n scare us with their grading 'n stuff. But you looked really excited and you talked about the projects. You also asked us how we felt about it instead of just assuming we'd like it. That made me feel like my opinion counted." He went on to talk about how I "got into" the projects and was involved and wanting to help the students—not just "leave us alone." He stated that the teacher's motivation was "always high"

Student L3 reported that she was still shy, but that she was "more comfortable this semester" than last. She was "surprised that I could really help someone, but since I speak Spanish, I could teach my student how to read better, and that makes me feel good. I always was reading with my little brother, but now I know some ways to do it better. I ask them questions, I don't just give the answer."

Student M2 said he felt "more like a citizen now because I am doing something instead of just complaining and hoping someone could do something." He said he felt like he "always had the power to do it, but not the reason to." Being in this class, he said, gave him opportunity and accountability to his group members and the teacher. Building the relationships with his group members "brought out my sense of humor…actually, all of us, our whole group, from the beginning didn't take ourselves too seriously and that's why we picked a more fun problem. It helped that we were all kinda the same." Regarding teacher motivation, he stated, "I think it's cool that you like music and you knew it was important to us…you encouraged us all the way when you could've said, 'why don't you guys do something else, like visit old people.' You stayed motivated and helped us stay motivated." At the conclusion of the interview, the student asked to make one last comment. It was "I think I do want to do something more serious. And I was only kidding about the 'old people' comment. Our church is going to do a holiday party for the senior center down the street, and I'm thinking of volunteering to help with the music. One of the bands coming to EMCC plays new swing, and I think the people there would like that."

Student O5 talked about how her group only had one absence during the first half of the semester and attributed it to the relationships they had built and that they "didn't want to let anyone down." So, "I was always on time, and absent once because I went out of town. But I still did the phone calls I was responsible for." She stated that she had always been a good group

member, but had learned more about the organ donation problem and "talked with my family and friends about the problem and could even tell them statistics and what the myths are."

The interviews and the questionnaire brought forth data regarding the learning in the Small Group Communication class as it related to learning styles, preferences, modalities, and multiple intelligences. Students felt that the methods employed in the class coincided with their learning needs and strengths. Comments from the survey included: "I don't like lectures and copying notes, but yours were short and to the point, and you gave us the handouts to fill in." "I liked that we got to do stuff and talk to each other every day, not just listen." "Everyone in our group has something their [sic] strong at, and all of us also have things we don't like to do or are not good at. [Student H3] was good at the compter [sic], but I was good at ideas. We helped each other with the things we were good at." "I felt good about how to do the problem solving steps because that is the way I think, but I know the group book really helped [Students M4 and M3] because there [sic] the really creative ones who are always all over the place."

The questionnaires also yielded a wealth of data regarding the topic of citizenship, and how students now define the term, in contrast to the beginning of the semester. Typical of the comments were, "I used to think citizenship was a government thing. But it is about just getting involved." "I didn't think of my self as a good or bad citizen before but now I am at least a better citizen because I am giving my time." "I will always want to do community service now because I know all the problems we have. There will always be problems, too bad, but hopefully there will always be people to solve them."

The questionnaires yielded similar, but no new data regarding leadership, communication, and problem-solving skills, relationships, citizenship, or student and teacher motivation. Both the interviews and questionnaires revealed no significant data regarding

student perceptions about impacts on their intercultural competency, even when compared with the pre-survey data. Additionally, other sources of data collection did not reveal observations of behavior that would indicate effects on intercultural competency, though the literature is very clear about those positive benefits resulting from Service Learning.

Examination of the student journals and assessment by rubric yielded data evidencing the achievement of course competencies, critical thinking at all of Blooms Levels of Thinking, and all of Blooms Levels of Affect. The journals included entries made during the planning of the Service Learning projects, and members of the Hunger, Literacy, Music, and Organ groups made entries while engaged in their projects (the computer group had not yet begun mentoring the Pappas School students). Students used small group communication jargon, such as groupthink, syntality, nonverbal communication, active listening, helping leadership, and goal setting and applied it to their Service Learning experiences. They additionally analyzed, synthesized, and evaluated their ideas: "The leadership at the LEC [campus tutoring] is very democratic. Belinda is the director, but she allows her workers to decide their schedules and other work to be done. But when she is not their [sic], the workers are the leaders." "I don't think our group will ever do group think because no one is afraid to say something. When [Student 03] talked about doing a health fair on campus and everyone was thinking what a great idea, I said it was too big of a project. They listened and we decided to just do the booth at the band festival." "I am concerned about why the campus does not have recycling on its own. Why does it have to be clubs that do it? There needs to be leadership in the employees, not just the students—servant leaders." "The nonverbal has changed in our own group and that is good. We are closer to each other and always sit tight together and when I see the others on campus we always wave and talk. [Student H1] told us about her 'under the weather' days [Student H1 suffers from crying

episodes due to depression] and we give her a hug and help her out." "I saw some conflict when I read the article in the newspaper about maybe building a Pappas school in West Phoenix. The school principals really like the idea because they say they can't meet those special needs of the homeless kids. But the mayors of the westside [sic] cities don't want to admit that their cities *have* homeless people. It's a conflict of motives. I don't know if there's a compromise, I think either there is going to be a school or not."

Examination of the group booklets confirmed achievement of course competencies and problem solving. The students successfully worked through the guided process of analyzing their problems, evaluating their efforts to measure progress, and effectively used a working timeline.

Examination of the tracking matrix showed that the groups had networked with each other while I was conducting the interviews, and had furthered their planning to support each other's efforts. The Literacy group posted that Student L1, an honors student, would propose her honors project for the semester to be a book drive for the Pappas school and would need my advocacy with the director of the honors program.

The Music group posted that they would be preparing fliers according to the standards suggested by the Marketing Director, and preparing a list of dates for advertisement. The Computer group posted that they would conduct a clothing/hygiene items collection drive during the Music group's event.

Examining student records showed that by midterm, only four students absences, and five tardies had been recorded—significantly less than when I compared to my other Communication classes this semester and Small Group Communication classes from prior semesters.

Additionally, all students initially enrolling in the class had remained enrolled—there had been no drops, either student or teacher initiated.

My journal entry "Rotary Club literacy--$500—books!" was the plan I would present to Student L1 at the next class meeting. My literacy committee was given a $500 budget, which we had not designated a recipient for. What if Student L1 challenged my club to donate a certain amount for each book she collected in her book drive? The money could buy additional books for the Pappas School. This exemplifies my own motivation and involvement in the student endeavors. Further examination of my field notes and journal entries from the past week, and the final interview transcripts and questionnaires presented evidences of my own motivation. Beginning with a growing awareness of local problems and the student abilities to solve them led me to a personal and professional enthusiasm for community service and a conviction to continue the practice of pragmatic problem solving in the classroom. Additionally, seeing the motivation and achievement levels of my students has spurred me to be the best I can be. Observing student empowerment and initiative made me realize the tremendous power that a small group of committed students can yield—hopefully appropriately with guidance from a competent instructor. My concern at this time was not the manageability of the projects, but the individual potential of the students that I could influence. I was so moved by the final comment of Student M2 about maybe helping at the Senior Center—it was the most overt change I had detected in any of my students. If this change was emblematic of potential changes in the other students, how could I facilitate my students moving from the lower to the higher levels of Service Learning? I would need to engage in a new cycle of research to learn how to do so.

Summary of Cycle 3

The duration of the third cycle, and final cycle of Action Research for this study, was two weeks (four class meetings). During this cycle students applied their knowledge of nonverbal communication and analyzed the behavior of their targeted Service Learning populations. They successfully presented those findings using structured group meeting formats. Student self and peer evaluations showed that students felt they had improved in leadership, confidence, organization skills, and problem solving. Other data indicated that student and teacher motivation had increased, and students desired to increase the scope of their projects into a more public arena. Student groups networked with each other to lend support and to increase the potential of the projects by being involved at the music festival. The tracking matrix tool for managing the projects was, thus far, an efficient way for students and teacher to maintain organization of the project tasks. Campus personnel were utilized for support and direction the projects would require.

Reflecting on the third cycle of research, it was evident that student motivation during the course of the study was significant, but additionally, that the student participants were more motivated now than at the beginning. Students expressed they had improved their group and public speaking skills, along with problem solving skills and citizenship skills, and were applying them in their everyday lives. Additionally, students viewed themselves as leaders and capable of making a difference. I verified those changes in student behavior, perceptions, and attitudes by comparing and contrasting the final enquiries with the pre-survey results from the beginning of the semester. The data from the interviews and questionnaire also showed evidence of growing student awareness of societal and institutional problems, a conviction for their targeted causes this semester, the need for and appreciation of relationships with classmates, and

the ability to function when empowered. There was, however, a lack of data showing impact on student intercultural competency, causing me to reflect on the amount of time the students had actually spent, thus far, directly serving their targeted populations.

A new development arose during my reflection that students' convictions regarding their causes could raise them to a new level of Service Learning—one that is characterized by future commitment to serve beyond the course requirement and the desire to enact social justice and social transformation. This higher level would require more direction from me, as their instructor. While this study of PBL and Service Learning officially ended after Class 15, it was incumbent on me to seek other resources to become competent in facilitating my students through the semester and mentoring them beyond. The cycles of research are continuing beyond this study.

Analysis and Interpretation of the Data

The research questions that drove this study were: (1) What are the effects on students' motivation when engaged in the process of PBL to perform Service Learning? (2) What other effects on students result from engaging in the PBL process to perform Service Learning? (3) What are the effects on the participant/researcher's motivation when engaging her students in the PBL process to perform Service Learning? This section will offer analysis and interpretation of the data as it relates to the research questions. Interpretations were crosschecked and validated by a colleague who is well versed in PBL, and crosschecked and validated by student participants.

Effects on Student Motivation

The first research question was "What are the effects on students' motivation when engaged in the process of PBL to perform Service Learning?" When the problem of lack of

student motivation had originally been identified, providing the impetus for this study, evidences of lack of motivation were: poor attendance, incessant tardiness, and a lack of enthusiasm and initiative, and lack of responsibility to the group. Evidences of motivation were viewed as categories and after examining the data, it was disaggregated into the categories. Table 5 presents the sources of the data, and the evidence of improved motivation present upon review of each source.

Table 5: Types of Data and Evidence of Student Motivation

	EVIDENCE OF STUDENT MOTIVATION					
TYPES OF DATA	ATTENDANCE	PUNCTUALITY	ENTHUSIASM	INITIATIVE	PARTICIPATION	RESPONSIBILITY
Field Notes	•	•	•	•	•	•
Pre-Ques-tionnaire	N/A	N/A	•	N/A	N/A	N/A
Formal Interview	•	•	•	•	•	•
Informal Interview	•	•	•	•	•	•
Discussion Boards	N/A	N/A	•	•	•	•
Group Booklets	•	•	•	•	•	•
Student Records	•	•	N/A	N/A	N/A	N/A
Student Journals	N/A	N/A	•	•	•	•
Teacher Journal	•	•	•	•	•	•
Student Self-Assessment	•	•	•	•	•	•
Student Peer-Assessment	•	•		•	•	•
Videotape	•	•	•	•	•	•

The table, however, does not show the levels of motivation detected as the study progressed. Data from field notes, student records, teacher journal, and student interviews showed that indicators of motivation were present beginning with class one and increased through class fifteen. Student feedback during the first week of Cycle One expressed interest in the new pedagogies and students identified in the pre-survey their desire to volunteer. As students began to identify real life problems, and then commit to solving them, the data shows their motivation increased. In fact, student responses, field notes, and teacher journal showed that during classes twelve through fifteen, motivation was observed at its highest point in the semester. The formal interviews after class fifteen significantly showed that students' motivation increased from the beginning of the semester to midterm, when the formal study terminated.

The themes that developed from the analyzed data show the causes for increased motivation: "Interest," "Empowerment," "Real Life Goals," "Success," "Hands-on," "Commitment to Group," and "Commitment to Cause." During the interpretation cross check, students identified one additional theme: Teacher Behaviors. Figure 1 depicts the "layers" (Creswell, 2002, p. 274) of data that lead to the answer to the first research question: student motivation increased. The theme "Interest" arose from data elicited throughout the study from experience and enquiry methods to explain one of several reasons why student motivation increased. First, students expressed their interest in the problems originally selected to solve, and this interest continued to grow as their groups progressed. Second, students expressed that the uniqueness of the PBL-Service Learning process made the learning experience interesting. Third, students found value in both the process and products of their learning. This finding is

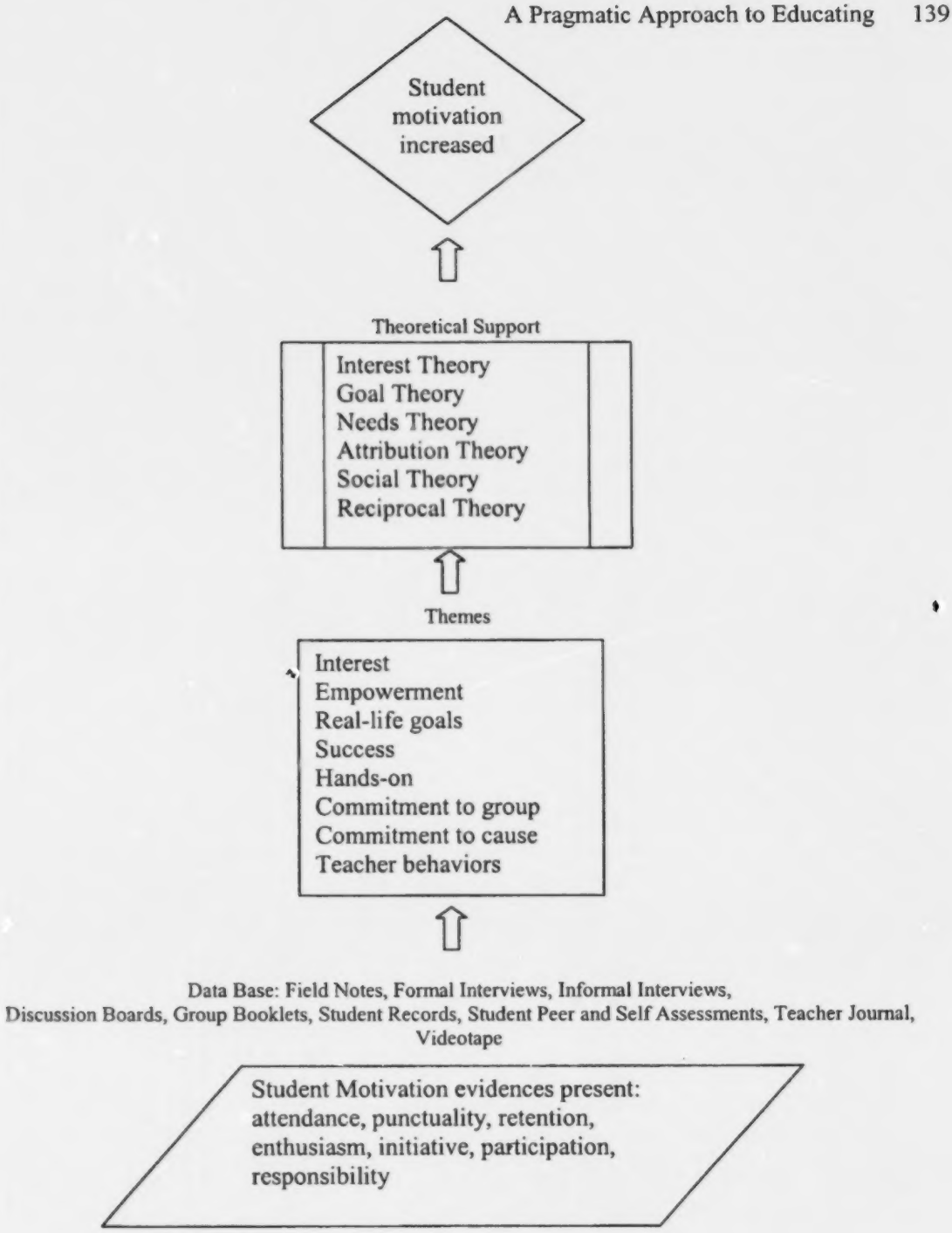

Figure 1: Student Motivation Findings in the PBL-Service Learning Study

supported by Krapp, et al (1992) who proposed those three perspectives of Interest Theory: personal interest, interestingness, and interest as a psychological state.

"Empowerment," was a theme that also occurred throughout the study, and is supported by Needs Theory. Students were motivated to meet the challenges of their problem solving because they occurred naturally in the campus/community environment. Students were also motivated by their empowerment to make choices and self-direct their projects. This theme relates to Maslow's (1954) hierarchy of needs that would find the students at the higher stages of self-actualization. The work of Rogers and Freiberg (1994) also relate to this finding in that the students were not "insulated from dilemmas," but rather faced them as they became involved in the real life situations.

Goal Theory (Silverman & Casazza, 2002; Woolfolk, 1998) supports a second theme, "Real Life Goals" for why student motivation increased. Performance, or ego, goal orientation was not observed during the study. Students were intrinsically motivated, and oriented towards mastery. The goals chosen by the students dealt with hands-on, real-life problems, for which there would be real-life outcomes of attaining, or not attaining resolution of them. More than mere grades, students expressed that their success would be measured by "making a difference" in people's lives. By using a task analysis and timeline process, students produced and met proximal and specific goals leading to the final solution of their problems. Their goals also fell within the Zone of Proximal Development (ZPD) (Vygotsky, 1978); the goals were lofty, but attainable through the recognized support of teacher and peers. Additionally, students were motivated to achieve the Small Group Communication competencies through hands-on application of the concepts.

Goal Theory and Attribution Theory support the theme "Success". "Success breeds success," (Turner, 2002), captures the motivational power of reaching goals. As students met proximal goals, they catapulted to the next. The Music and Computer groups struggled early in the study to get their projects off the ground and were not feeling successful. They moved toward success by being kept in the ZPD through teacher and peer commitments of support. Additionally, however, the group members sought to find rational answers for why the hurdles stood in their way, and developed potential alternative plans. When they succeeded at a difficult, almost seemingly impossible task, they were grateful, even exultant, and spring boarded to the next steps.

Needs Theory supports the theme of "Commitment to Group" as to why student motivation increased. Students indicated that the importance of relationships had grown during the course of the study, and how being responsible to their groups had resulted in a more personal commitment. They did not want to let their groups down. They communicated out of class. They supported each other. They demonstrated a positive interdependence. They grew in cohesion. They also grew individually in esteem. Maslow's Hierarchy of Needs places these students at levels of needing belongingness and love, and esteem.

Social Theory explains the "Commitment to Cause" theme that increased student motivation. Both behaviorist and cognitive in explanation, student self-perceptions and behaviors changed as the study progressed. Students began by demonstrating an interest in a topic of their own choosing. As they became involved in the topic, their locus of control became internal as their self-efficacy increased. They came to believe in their own power and ability to be successful in completing their authentic tasks. They also came to develop a personal belief in the plight of their targeted populations, and their responsibility to make a difference.

Students identified the theme, "Teacher Behaviors" as being a significant factor in their increased motivation. The high, but attainable, teacher expectations, together with an unquestionable belief that the students could and would achieve them were strong influences on the students. The Pygmalion effect supports this interpretation. Additionally, the students identified "coaching" behaviors by the teacher—verbal and nonverbal enthusiasm, modeling, accessibility, encouragement, and assistance. Perry (1985) supports this finding that enthusiastic models increase observers' self-efficacy and motivation.

In addition to finding that student motivation increased during the study when combining PBL with Service Learning, the teacher-researcher identified and analyzed other effects on students.

Other Effects on Students

The second research question was, "What other effects on students result from engaging in the PBL process to perform Service Learning?" Table 6 shows the type of data collected and the identified themes. Themes arising from the data were: "Communication Abilities," "Critical Thinking Abilities," "Course Competencies," (Cognitive Domain) and "Self Esteem," "Self Efficacy," and "Self Concept" (Affective Domain). Figures 2 and 3 depict the layering of data that led to two answers to the second research question—learning objectives in the domains were met or exceeded.

Cognitive domain.

When students engaged in the PBL process to conduct Service Learning, three themes emerged that led to the teacher-researcher's interpretation that cognitive objectives were met. The teacher-researcher identified the first theme, "Communication Abilities," from data showing students having successfully engaged in collaborative writing, speaking, and listening

Table 6: Evidences of Other Effects on Students and Types of Data

	EVIDENCES OF OTHER EFFECTS ON STUDENTS								
TYPES OF DATA	Leader-ship	Aware-ness	Public Speaking Skills	Problem Solving Skills	Group Com. Skills	Relation-ships	Convic-tion	Citizen-ship Skills	Empower-ment
Field Notes	•	•	•	•	•	•	•	•	•
Formal Interview	•	•	•	•	•	•	•	•	•
Post Survey	•	•	•	•	•	•	•	•	•
Informal Interview	•	•	•	•	•	•	•	•	•
Discussion Board	•	•	•	•	•	•	•	•	•
Group Booklets	•	•	•	•	•			•	•
Tracking Matrix	•			•	•			•	•
Student Journals	•	•	•	•	•	•	•	•	•
Teacher Journal	•	•	•	•	•	•	•	•	•
Video-tape	•	•	•	•	•	•	•	•	•

processes, and public speaking opportunities. Students engaged in group dynamics and interpersonal communication during all 15 class meetings, and also out of class when engaging in Service Learning. Students also engaged in purposeful and critical listening. Data showed that students felt their group communication had improved in frequency and content. These findings are supported by Cragan & Wright (1999) and Constructivism theory, as to the effectiveness of PBL enhancing collaborative communication (Woolfolk, 1998). Learning is enhanced with students engage in group communication (Lumsden & Lumsden, 2000). Too, the more practice students have in participating in formatted group presentations, their individual

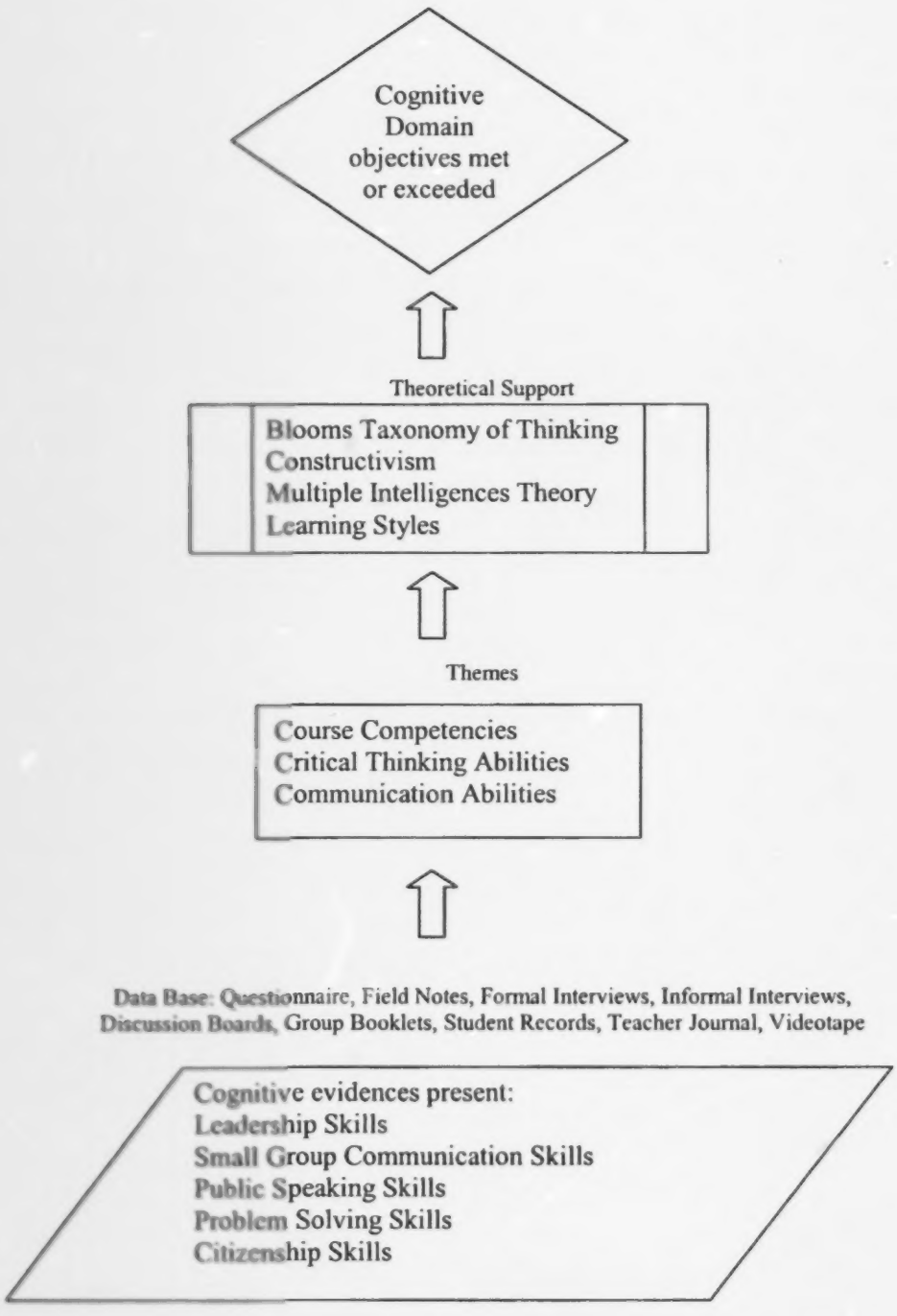

Figure 2: Other Student Findings in the PBL-Service Learning Study--Cognition

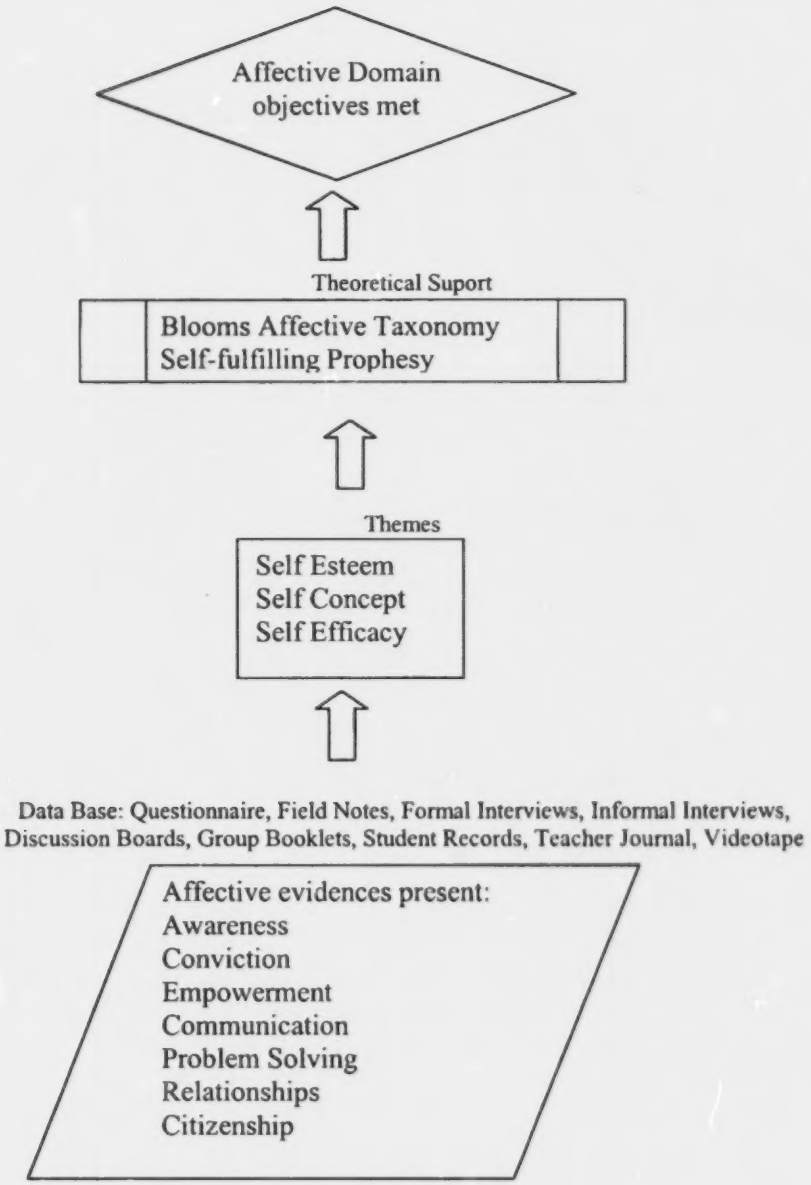

Figure 3: Other Student Findings in the PBL-Service Learning Study--Affect

public speaking skills improve (Grice & Skinner, 2002). Additionally, students reported transfer of communication skills to other settings, such as at home, work, and in other classrooms.

When conducting the cross check with a colleague familiar with PBL, she interpreted the data leading to the "Critical Thinking Abilities" theme to mean that the cognitive objectives had not only been met, but had been exceeded. The data showed that students at the community college were going beyond the expected Knowledge, Comprehension, and Application levels of Blooms Taxonomy of Thinking into the higher levels of Analysis, Synthesis, and Evaluation. The PBL process promotes thinking and learning through problem solving, competencies frequently not acquired in traditional college coursework (Edens, 2000). Integrating the Service Learning aspect to PBL also gave students the opportunity to analyze and evaluate their local communities to identify problems. They then synthesized their documentation of the problems to develop problem statements. While implementing their solutions, students monitored progress and engaged in reflective thinking in their journals. Combining PBL and Service Learning provided students with many more opportunities to engage in critical thinking than would be the case of using only one method. While experts disagree whether critical thinking can be learned, they are in agreement that engagement in the processess of thinking improves thinking skills (Harper-Marinick, 2001).

The third theme tied to cognitive domain objectives is "Course Competencies." Students showed evidence of knowing, understanding, applying, analyzing, and evaluating the course concepts taught during the eight week period of the study. The PBL and Service Learning strategies, jigsaw activities, and direct instruction that included active learning methods complimented the learning styles and preferences of the students, allowed for different modalities, and utilized the multiple intelligences of the students. PBL and Service Learning

literature support this finding, as the pedagogies promote an intelligence-friendly classroom, and meet the learning needs of diverse students (Fogarty, 1998; Woolfolk, 1998). Both strategies are also grounded in constructivist theory that emphasizes the importance of the learning process, and the usefulness of the learning, but not necessarily the accuracy of learning.

Affective domain.

"Students don't just learn, they feel" (Hesse, 2001). This quote illustrates the second answer to the the research question about other effects on students when using the PBL process to engage in Service Learning. The answer is that combining the two pedagogies (in addition to students meeting cognitive learning objectives) met affective learning objectives. Service Learning literature supports all three themes—"Self Efficacy," "Self Concept," and "Self Esteem"—relating to the affective domain of learning (2001). In this study, data clearly showed that students moved through all five levels of Bloom's (1964) Affective Taxonomy. They attended to a problem in their local environment, became aware of the causes of the problem, became involved in solving the problem, imparted greater value in community service, and committed to future involvement (Woolfolk, 1998). Moving through the levels led to the improvement of student "Self Efficacy," changes in "Self Concept," and heightened "Self Esteem," evident from the patterns of data collected primarily during the third, and final, cycle of research.

At the beginning of the semester, students wondered if they would succeed or fail at this risky and unique assignment the teacher was expecting them to do. As the groups bonded, engaged in the requisite tasks and became emotionally affected by their projects, they grew in self-efficacy. Students learned to set appropriate goals, task analyze, and discuss solutions. Students also reported transfering that process knowledge to situations beyond their projects.

Vygotsky's (1978) theory of ZPD supports this theme, as students received proper instructional and modeling support by the teacher and peers. Even the Music and Computer groups, that faced initial difficulties, persisted due to the support shown.

Students' "Self Concept," the second theme, changed during the eight week study. Data from the pre-survey contrasted with the post survey and final interviews, especially, showed that students saw themselves as better citizens, as "givers," and "doers," and as having "changed forever." They also had changed in how they are now more aware of societal needs, are more knowledgeable of their own strengths, now empathize and care more than before, and are now less judgmental about those less fortunate than themselves. In addition to Service Learning research, Self-fulfilling prophesy, particularly the Pygmalion effect, supports this finding (Oakes, 2002;Woolfolk, 1998). The expectations of the teacher-researcher were communicated often to the students. She expected them to successfully solve real-life problems, and to be changed from the experience. Additionally, students believed in each other—within their own groups, and within the class. Finally, students experienced the self-fulfilling prophesy, the "Galatea effect" (Gamble & Gamble, 2002, p.63) believing in their own abilities and creating the conditions for their own success.

Students' "Self Esteem" rose during the study. Students reported often about "feeling good" about themselves, and liking their changing self concepts. They placed value on their own characteristics, abilities, and behaviors. Service Learning literature supports this affective reward for providing service to others, while at the same time learning (Oakes, 2002). Harter (1990) found that a high degree of success in meaningful task accomplishment is also related to self esteem, and Good Weinstein (1986) emphasized the positive impact of a cooperative problem solving environment on student self esteem (Woolfolk, 1998).

The aforementioned findings regard positive effects on students while engaged in the PBL process to conduct Service Learning. Student motivation increased. Students met or exceeded Cognitive learning objectives. Students met Affective learning objectives. There was no data to support the finding of negative effects on students when combining the two pedagogies. The third, and last research question dealt with the teacher-researcher as a participant in the study.

Effects on Participant/Researcher's Motivation

The third research question was, "What are the effects on the participant/researcher's motivation when engaging her students in the PBL process to perform Service Learning?" Evidences of motivation found in the teacher journal, field notes, and student interviews/questionnaires included enthusiasm, self-efficacy, awareness, personal conviction, student empowerment, and high involvement. Themes identified were "Student Behaviors" and "Teacher Role." Figure 4 depicts the layering of data leading to the answer to the third research question: teacher motivation increased.

During the eight weeks of the study, the participant/researcher was acutely observant of the behaviors of her students, and constantly comparing and contrasting with student behavior from prior semesters when traditional PBL was exclusively used in the Small Group Communication classroom. It was apparent from even Class 1 that the students were interested in the innovative approach to learning and progressed to a passionate level of engagement. During that time, students met and exceeded teacher expectations for involvement, and by the eighth and final week of the study, had ascended to a higher level of Service Learning than had been anticipated. Additionally, students had successfully met course competencies, were engaged in the highest levels of critical thinking, and had acquired or honed effective

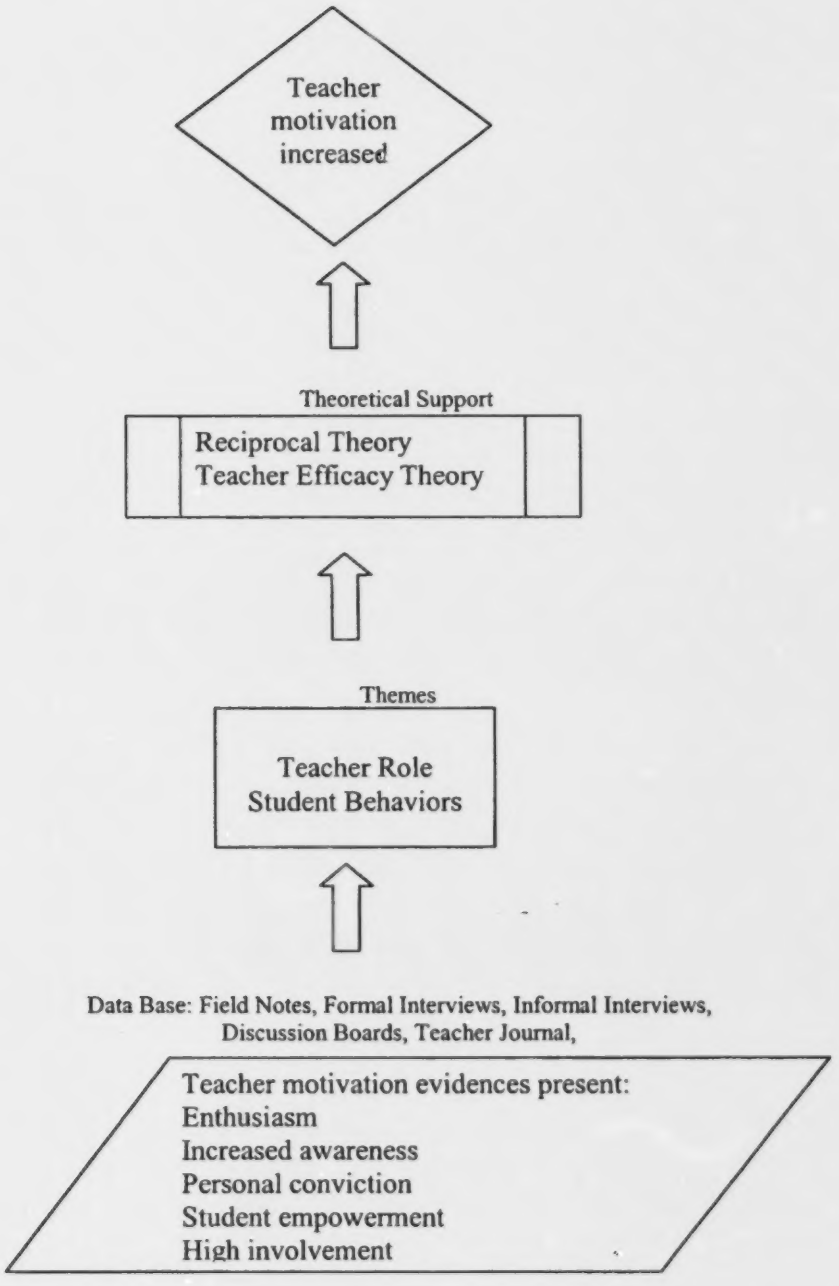

Figure 4: Teacher Motivation Findings in the PBL-Service Learning Study

communication skills. There had been considerably and noticeably fewer absences and tardies than in past Small Group Communication classes. There had been no student complaints, and in fact, students were vocal about their "love" for this class. The participant/researcher wrote in her journal that she had "found gold" with these highly motivated and productive students. When a concern arose during the first cycle of research, the participant/researcher eagerly responded to the needs of her students. Because of the high involvement and motivation of the students, they sought to broaden their efforts and take their endeavors to more public arenas, which would require the participant/researcher to take on roles that went significantly beyond the classroom duties. The participant/researcher was only too happy to do so. At the end of the third and final official cycle of Action Research, students were ready to move into the Social Justice or Social Transformation motivations for Service Learning. This would require the participant/researcher to have to learn, herself, how to lead the students in this direction. She enthusiastically began the necessary research. The motivation and the productivity of the students and their teacher were reciprocal. The teacher possessed high self-efficacy.

Reciprocal Theory and Teacher Efficacy Theory simply, but comprehensively, explain the causes for increased motivation in the participant/researcher. Reciprocal Theory proposes a correlation between student and teacher motivation. Teachers influence student motivation, and when student motivation is high, teacher motivation increases (Woolfolk, 1998).

There is also a correlation between student achievement and a teacher's belief that he or she can help students learn, known as teaching efficacy. Teaching Efficacy Theory contends that teachers with higher self-efficacy are more apt to grow professionally, develop challenging activities, and help students succeed. Teachers possessing high self-efficacy are more willing to

persist and go beyond the traditional role of teacher, as they, themselves, feel they are capable of making a difference (Woolfolk, 1998).

Summary of Findings

During the eight-week study of combining PBL with Service Learning in the Small Group Communication classroom, the teacher-researcher collected data by triangulated means. She then analyzed this data by disaggregating it and finding patterns. Themes emerged from the patterns that led to their interpretation and eventual answers to the research questions. The findings related to the research questions, supported by theory and literature, were that student motivation substantially increased when combining PBL with Service Learning in the Small Group Communication classroom. Additional effects on students were that cognitive and affective learning objectives were met or exceeded. Finally, the new practice of combining the two pedagogies significantly increased the motivation of the participant/researcher. Additional conclusions not related to the research questions are presented in the following chapter that also presents a summary of the study, and recommendations for future research.

CHAPTER 5: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The purpose of this study was to increase student and teacher motivation by providing students the opportunity to engage in a pragmatic problem solving process to solve student-identified campus or community problems while achieving the competencies of the Small Group Communication course. The study also sought to study the efficacy of combining PBL and Service Learning. The study was in response to the problem that traditional PBL, while a proven legitimate pedagogical strategy, failed to sustain student or teacher motivation in the Small Group Communication class setting. The duration of the study was 8 weeks, which included 15 class meetings, during which three cycles of Action Research occurred. The setting for the study was Estrella Mountain Community College just west of Phoenix, Arizona. The sample population was 30 daytime students enrolled in the teacher-researcher's Small Group Communication class during the Fall 2002.

Constructivist teaching strategies are growing in popularity for their effectiveness in promoting critical thinking, communication skills, and achieving course competencies. PBL, a constructivist pedagogy, has shown merit for student learning, but the author's concern was that it lacks the pragmatism to sustain high motivation in students. Based upon the author's observations and student reactions, during and following a deviation from traditional PBL (when students underwent solving a real-life situation on campus using the PBL process and demonstrated increased motivation), the author began the study that combined PBL with another constructivist pedagogy, Service Learning.

The Review of Literature

A review of the literature presented the elements of PBL and Service Learning pedagogies, and their benefits and limitations. Additionally, current literature on motivation was reviewed as it relates to teaching and learning.

Problem-based learning.

According to recent articles, PBL is motivational, meaningful, authentic in assessment, and promoting of the multiple intelligences. PBL also hones collaborative, communication, and critical thinking skills. PBL, while highly effective in promoting learning in the cognitive domain, is limited, however, in that it does not address two aspects of critical thinking: problem identification and the actual implementation of strategies to solve the problem. PBL also lacks the pragmatic qualities of engaging students in real-life problems, community democratic processes, and civic engagement.

Service learning.

The literature shows that Service Learning provides motivational affective rewards, promotes achievement, and addresses the needs of a variety of types of learners and their multiple intelligences. The learning in Service Learning is accelerated through the requisite reflective thinking strategies, and transfers to later-life situations. Affective learning is another strength of Service Learning. The pragmatic benefits to the community and/or campus are vast. The literature significantly shows that Service learners also attain increased intercultural competency. The limitations of Service Learning are that it does not necessarily require collaborative (with classmates) efforts, and does not necessarily include the problem-solving process.

Recent literature does document the motivational benefits of PBL and Service Learning, as opposed to traditional expository delivery of instruction. The literature on motivation theory, however, exposes the motivational factors inherent in pragmatic activities that are not a part of PBL, and vice versa.

Motivation theories

Needs Theory emphasizes the role of human needs in motivating individuals to act. According to Maslow (1954), Needs Theory suggests that learners possess higher needs of belonging, loving and being loved, and self-actualization; additionally, freedom, and choice, and students' innate eagerness to solve meaningful and relevant problems are motivational. Rogers (1969) contends that motivation is intrinsic because the environment is rife with challenges, and students are curious and eager to discover and learn; therefore Rogers places more importance on the environment to stimulate internal needs. The collaborative nature of PBL has the potential to create feelings of belongingness; however, Service Learning does not typically occur in a collaborative setting. Service Learning motivates students by providing them freedom and challenges in the natural environment.

Goal Theory stresses the importance of commitment to meaningful and achievable goals. These mastery goals motivate intrinsically and include value for critical thinking, problem solving, and metacognition. Vygotsky's (1978) Zone of Proximal Development (ZPD) relates the importance of goals, while challenging, must be attainable. Additionally, the ZPD denotes the importance of proper instructional and modeling support by teacher and peers to promote motivation (Woolfolk, 1998).

PBL utilizes problems that have been selected for their content appropriateness, not necessarily for their immediate and personal meaningfulness to learners. The real-life, mastery goals inherent in Service Learning have immediate and personal meaningfulness. Additionally, the team approach in PBL helps create the ZPD as students support each other and the teacher facilitates.

Attribution Theory proposes that individuals are motivated to know and control the natural environment. PBL is a collaborative research process for solving hypothetical problems, and while the process may include laboratory work, the students do not interact with the natural environment, as they do in Service Learning.

Social Theory emphasizes the student's need to have self-worth and self-efficacy, and student value for utilitarian and authentic tasks; Service Learning provides the students with useful and real-life tasks. While the literature on the collaborative aspects of PBL indicates that students become self-directed researchers, the self-efficacy does not necessarily go beyond the classroom environment. The PBL problems, while based on realistic situations, are not truly authentic and do not necessarily have utilitarian value beyond the given assignment. Service Learning gives students the opportunity to self direct their efforts in the world laboratory, increasing their self-efficacy to wrangle with problems that lead to real outcomes. It is not evident in the literature that the PBL process moves learners toward greater self-esteem or clearer self-concept, as does Service Learning.

Interest Theory, also common to Needs Theory, proposes the logical notion that individuals are motivated to undertake tasks that are of personal and authentic interest to them. PBL problems are crafted to be interesting to the students, but they have no personal stake to the

learners. When students can select and direct their Service Learning projects, there is personal interestingness.

All the motivational discrepancies here noted in PBL are some of the strengths of Service Learning in motivating learners, and vice versa.

Reciprocal Theory and Teacher Efficacy Theory explain how student motivation affects teacher motivation. There also exists a reciprocal influence between teachers and students. Reciprocal Theory takes into account motivation of both learners and their teachers, and the effects of student reactions to instruction. Positive learner responses to teaching practices, topics, and classroom activities are motivational for the teacher to continue them; negative learner responses motivate teachers to change practices, topics and activities. While teachers typically deviate little from their plans, decisions during teaching are influenced by their inferences about students' cognitive and affective processes relevant to motivation.

Recent research has focused on teaching efficacy, a sense of efficacy in teaching. There is a correlation between student achievement and a teacher's belief that he or she can help students learn. Self-efficacy theory predicts that teachers with a high sense of efficacy "work harder and persist longer even when students are difficult to teach, in part because these teachers believe in themselves and in their students" (Woolfolk, 1998, p. 393). Teacher efficacy grows from genuine success with students, not just the "moral support or cheerleading of professors..." (p. 394). Teacher self-efficacy is a primary determinant of what route a teacher will take in response to motivated or unmotivated learners. Teachers with higher self-efficacy are more apt to grow professionally, develop challenging activities, help students succeed, and persist with students who have problems. Aston and Webb (1985) found that "teachers with higher self-efficacy were

likely to have a positive classroom environment, support students' ideas, and address students' needs" (p. 331). These motivational effects on teachers, and their self-perception of efficacy, are significant predictors of student achievement (2002).

No matter how motivation is defined, the literature review shows how Service Learning can address it in a way that PBL cannot, and additionally PBL can address the limitations of Service Learning. This finding, in conjunction with the author's preliminary observation and enquiry, stood as a foundation to integrate the methodologies of PBL and Service Learning to improve instruction.

The Methodology

The characteristics of qualitative research made this methodology the most appropriate for this study. The enquiry process to understand a social or human problem, the natural setting, the active involvement of the researcher in the study, and the opportunity to use multiple methods of data collection are inherent in qualitative research, and therefore, incumbent in this study. The purpose of this study—the improvement of instruction—strongly indicated Action Research as the qualitative tradition to be followed.

Action Research, though recently gaining in popularity and respect, especially in educational research, has long existed as an informal method when humans encounter problems and seek to improve situations. It is a practical and cyclical process that yields practical results.

When the author encountered a perceived motivational problem within her Communication classroom, she began the preliminary steps of Action Research: observation, enquiry, and reflection. The indicators of the problem were increased absenteeism and tardiness, decreased enthusiasm, participation, initiative, and lack of responsibility to the group. A

reciprocal motivational problem also existed in the author (as teacher) in response to the students' lack of interest. The observation and enquiry yielded that the students were not interested in solving hypothetical problems, but desired to engage in real-life problem solving to meet the course competencies. Reflecting on the situation, the author considered options, conducted a search of the literature, and attended professional gatherings regarding the Service Learning pedagogy.

During the PBL-Service Learning project, data was collected via the triangulated methods of experience, enquiry, and examination. The data was collected, analyzed and evaluated for credibility, transferability, dependability, and confirmability (reliability and generalizability are not issues in qualitative research). Data included responses from recorded interviews, discussion responses, questionnaire responses, field notes, student and teacher-researcher journals, student records, Discussion Board (online discussion) postings, group problem-solving workbooks, a tracking matrix, and videotape transcripts. The data was then disaggregated, analyzed for patterns and themes, and interpreted with assistance from the student participants and colleagues of the teacher-researcher. Additionally, the findings were interpreted as they related to theory and the literature on PBL, Service Learning, and motivation.

The action research cycles.

The first cycle of action research began with the implementation of a new practice in the classroom. Students were instructed in the PBL process, but their engagement in the process deviated from solving hypothetical, teacher-crafted problems, to identifying and solving real-life campus and community problems (i.e. performing collaborative Service Learning). Students

were given the Service Learning assignment presenting the objectives, outlining the process and delineating the criteria.

After identifying campus and community problems (Appendix I) students selected and analyzed the following problems: the lack of awareness of organ donation, adult literacy, lack of exposure of local music groups, need for a computer lab assistance at an elementary school that services the homeless population in Maricopa County, and hunger/need for recycling. Students then formed collaborative groups according to interest and began researching the problems. Students made contacts with the appropriate supervising personnel and agencies and began planning implementation (the Service Learning activities).

The duration of Cycle One was six class meetings. During that time, students were introduced to the PBL and Service Learning pedagogies and their merits. The successes in the cycle included the successful completion of a jigsaw activity and group presentation project. Student motivation was at high levels as evidenced by no absences or tardies, enthusiasm, participation, initiative, and responsibility to group members. Teacher motivation was in concinnity with student motivation evidenced by high enthusiasm. The concern arising in Cycle One was student confusion about how to move from problem identification to problem solution. Teacher intervention would be necessary to take the students through the problem-solving process that included the initial stages of problem definition and confirmation—steps not required in traditional PBL.

The duration of Cycle Two was five class meetings. During that time, students engaged in a structured process of problem identification, documentation, and analysis using the group booklet tool provided by the teacher-researcher. Each group progressed in the process at

differing rates. Students also learned about contemporary leadership approaches, Groupthink, nonverbal communication, and types of public group presentation formats; they then integrated that knowledge into their projects and presentations.

During this cycle, students showed tremendous vision as they set goals to make their projects more public. Their intentions to host a health fair, a music festival, a food drive, and a recycling project would require enlistment of services or direction from various campus personnel. The teacher-researcher was a full participant in the expanding projects, guiding the students through the process, assisting with networking endeavors, and performing necessary tasks to support the students' efforts. The concern leading to the third cycle of Action Research was the need to better manage the projects from a more global perspective. The teacher-researcher developed a tracking matrix for use by the teacher and students to keep the projects organized.

The duration of the third, and final cycle, of Action Research for this study, was four class meetings. During this cycle students applied their knowledge of nonverbal communication and analyzed the behavior of their targeted Service Learning populations. They successfully presented those findings using structured group meeting formats. Student self and peer evaluations showed that students felt they had improved in leadership, confidence, organization skills, and problem solving. Other data indicated that student and teacher motivation had increased, and students desired to increase the scope of their projects into a more public arena. Student groups networked with each other to lend support and to increase the potential of the projects by being involved at the music festival. The tracking matrix tool for managing the projects was, thus far, an efficient way for students and teacher to maintain organization of the

project tasks. Campus personnel were utilized for support and direction the projects would require.

It was evident during this third cycle of Action Research that student motivation during the course of the study not only was significant, but that it had increased from the beginning. Students expressed they had improved their small group communication and public speaking skills, along with their problem solving skills and their citizenship skills, and were applying them in their everyday lives. Additionally, students viewed themselves as leaders and capable of making a difference. It was also evident that student awareness of societal and institutional problems and a conviction for their targeted causes were leading towards a higher level of Service Learning—one that is characterized by future commitment to serve beyond the course requirement and the desire to enact social justice and social transformation. This higher level would require even more direction, support, and expertise from the teacher, and led to the continuation of the project through the end of the Fall 2002 semester.

Findings

The findings related to the research questions, supported by theory and the literature, were that student and teacher motivation substantially increased when combining PBL with Service Learning in the Small Group Communication classroom. A reciprocity of motivation existed between the teacher and her students. Additional effects on students were that cognitive objectives were met or exceeded. Students' communication skills improved, having successfully engaged in collaborative writing, speaking, and listening processes, and public speaking opportunities. Additionally, students reported transfer of communication skills to other settings. The students also moved through all levels of Blooms Taxonomy of Thinking. Integrating the

Service Learning with PBL gave students the opportunity to analyze and evaluate their local communities to identify problems. They then synthesized their documentation of the problems to develop problem statements. While implementing their solutions, students monitored progress and engaged in reflective thinking in their journals. Combining PBL and Service Learning provided students with many more opportunities to engage in critical thinking than would be the case of using only one method.

Students also showed evidence of knowing, understanding, applying, analyzing, and evaluating the Small Group Communicationcourse concepts taught during the eight week period of the study. The concepts were integrated into their Service Learning projects.

Finally, in this study, students met affective learning outcomes. Data clearly showed that students moved through all five levels of Bloom's (1964) Affective Taxonomy. They attended to a problem in their local environment, became aware of the causes of the problem, became involved in solving the problem, imparted greater value in community service, and committed to future involvement Moving through the levels led to the improvement of student self efficacy, changes in self concept, and heightened self esteem. In contrast to the literature, results of the study showed no impact on the students' intercultural competency.

Summary of Findings

The problem to which this dissertation was directed is the following: Traditional PBL, while a proven legitimate pedagogical strategy, failed to sustain student or teacher motivation in the Small Group Communication classroom. The study combined PBL and Service Learning pedagogies, providing students with a more pragmatic experience as they solved real life problems on campus and in the community. Student motivation at the onset of the study was

high and increased significantly throughout the duration of the study. Teacher motivation was also high at the beginning of the study and significantly increased throughout its duration. There existed a cyclical reciprocity between students and teacher that fueled this continued motivation.

Additional benefits to students resulting from combining the two pedagogies were meeting or exceeding cognitive learning outcomes (the strength inherent in the PBL process), and meeting affective learning outcomes, the strength inherent in Service Learning. Combining the two methods was efficacious in teaching to the whole student.

The role of the teacher in successfully combining the two pedagogies cannot be understated. The immersion of the teacher in the student endeavors made her a stakeholder in the projects' outcomes. The teacher was a facilitator, but also a coach and a full participant. While engaging the students in the PBL process to perform Service Learning, she, herself engaged in a form of the PBL process (Action Research) and performed service to her students. Together, they made a difference, within themselves and for others.

Finally, transforming PBL into a more pragmatic strategy by having students select and solve real life problems meant that the problems would be real-life "messy." New problems arose as the students implemented solutions. The process mirrored real life outside of the classroom. However, in defending the Constitution of the United States, James Madison offered, "Democracy is not efficient" (Cleveland, 2002). John Dewey would agree.

Recommendations

General Recommendations

Because of the inherent strengths of PBL and Service Learning and the natural articulation between the two, the two pedagogies should be combined as an authentic teaching

methodology when indicated. When students lose interest in PBL, or when students need to be taken beyond a typical Service Learning placement at an agency, they should be engaged in authentic problem solving. Critical thinking and collaborative skills are highly valued in professional, social, and personal settings. Students want to perform service to their community, but perceive a lack of time. There is a greater need than ever for volunteerism and civic engagement. Providing students an opportunity to pragmatically use their thinking, communication, and collaborative skills while in school benefits them and the community. A majority of American college students who engaged in a minimum of 30 hours of Service Learning in the year 1999, continued to engage in community service and/or civic engagement the following year (Hesse, 1999). "Catching the volunteer bug" also creates a family legacy of community involvement and giving (Oakes, 2001).

Recommendations for Further Research

Recommendations for further research regard duration, other sample populations, and other disciplines. This study was limited to an 8-week duration that included 15 class meetings. Students had performed 4 to 20 hours of service by the end of the study. The data failed to show that student intercultural competency had improved, as indicated by the literature. Future studies should have a duration of at least one semester if the purpose is to elicit more data about this important benefit to students.

The sample population for this study was limited to daytime students. Demographics for nighttime students often differ at community colleges (Cohen & Brawer, 1996). At evening classes at EMCC, male students outnumber female students by 50 percent. The median age of

nighttime students is five years older, and 30 percent more evening students are part-time (Willekins, 2002). Combining the two with evening students and teachers should be studied.

The sample population was Small Group Communication students, a process and performance discipline with few restrictions on content. Would the effects on students and teachers differ if PBL was combined with Service Learning in a chemistry, math, history, or composition class? The size of the sample population was 30 students in one class. Could the combined pedagogies of PBL and Service Learning produce positive results in students and teachers in a Small Group Communication class of greater numbers? The sample population was also community college students taking a 200-level undergraduate course. How would students in Junior, Senior, or Graduate level courses and their teachers fare? PreK-12 students and their teachers? These and other population samples, if indicated, should be studied when combining PBL with Service Learning.

Conclusion

The astronomer and mathematician, John Lubbock declared, "Reading and writing, arithmetic and grammar, do not constitute education any more than a knife, fork, and spoon constitute a dinner" (Turner, 2002). Although students learn a good deal through researching and writing papers, and, although students learn about public policy and practical politics, PBL provides the process for, and Service Learning provides the pragmatic result of, learning and achieving course competencies. The most important aspect of Service Learning is student empowerment to identify the problem(s), and the satisfaction of actually implementing solutions. Learning *about* democracy is not enough. PBL that leads to bona fide change, and Service Learning that requires students to *participate* in democracy through the problem-solving process

results in Dewey's vision of active citizens who come to realize they can positively influence their communities to truly "make a difference."

Albert Einstein declared, "The important thing is not to stop questioning" (Turner, 2002). Educators must always question their practices when concerns arise in the classroom. Action Research is a natural process that professional educators engage in when they identify problems, search for solutions, try new practices, and look for results. The cycle is not vicious; it is the way to grow and become the best one can be to benefit students and society.

REFERENCES

Albanese, M. A. & Mitchell S. (1999). Problem-based learning: a review of literature on its outcomes and implementation issues. *Academic Medicine, 68,* 52-81.

Bennett, J. M. & Bennett, M. J. (2002). *Developing Intercultural Competence.* Portland, OR: Communication Perspectives, Inc.

Burns, L.T. "Make sure it's service learning, not just community service." *Education Digest, 64,* 2, 38-42.

Cantor, Jeffrey A. (1995). Experiential learning in higher education: linking classroom and community. ASHE-ERIC Higher Education Report No. 7. Washington, D.C.: The George Washington University, Graduate School of Education and Human Development.

Checkley, K. (1997). Problem-based learning: the search for solutions to life's messy problems. *Curriculum Update.* Association for Supervision and Curriculum Development.

Cleveland, S. (personal communication, October 4, 2002).

Collins, J.. (1998). Seven kinds of smart. *Time, 152,* 94-6.

Cragan, J. F. & Wright, D. W. (1999). *Communication in Small Groups.* Belmont, CA: Wadsworth.

Creswell, J. W. (1998). *Qualitative Inquiry and Research Design: Choosing among five traditions.* Thousand Oaks, CA: Sage.

Creswell, J. W. (2002). *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research.* Upper Saddle River, NJ: Pearson Education Co.

Delisle, R. (1997). *How to Use Problem-Based Learning in the Classroom.* Alexandria, VA: Association for Supervision and Curriculum Development.

Edens, K. M. (2000). Preparing problem solvers for the 21st century through problem-based learning. *College Teaching, 48,* 55-61.

Enns, B. Action research. Extended Seminar, Capella University, January 2, 2002.

Erlandson, D., Harris, E., Skipper B., & Allen, S. (1993) *Doing Naturalistic Inquiry.* Newbury Park, CA: Sage.

Fenwick, T.J. & Parsons, J. (1998). Boldly solving the world: a critical analysis of Problem-Based Learning as a method of professional education. *Studies in the Education of Adults, 30*, 53-66.

Fogarty, R. (1997). *Problem-Based Learning & Other Curriculum Models for the Multiple Intelligences Classroom.* Arlington Heights IL: IRI Sky Light.

Fogarty, R. (1998). The intelligence-friendly classroom: it just makes sense. *Phi* Delta Kappan, 79, 655-7.

Furco, A. (1996). Service learning: A balanced approach to experiential education. *Expanding Boundaries: Service and learning.* Washington, D.C.: Corporation for National Service.

Gamble, T. & Gamble, M. (2002). *Communication Works.* Boston: McGraw Hill.

Gerdes, D. A. (2001) A user-friendly look at qualitative research methods. *Physical Educator, 58,* 4, p. 183-191.

Goleman, D. (2000). *Working with Emotional Intelligence.* New York: Bantam.

Gottlieb, K. (personal communication, May 26, 2002).

Harper-Marinick, M. (2000). Thinking critically about critical thinking. *mcli Forum, 2,* 4-5.

Hamner, D. M. (2002). *Building Bridges.* Boston: Allyn and Bacon.

Hesse, M. (Keynote address, MCLI Service Learning Dialogue Day, Chandler-Gilbert Community College, September 7, 2001).

Hickman, L. A. & Alexander, T. M. (1998). *The Essential Dewey, Volume 1: Pragmatism, Democracy, Education.* Bloomington and Indianapolis: Indiana University Press.

Kelly, D. (2002). A word about charity & September 11, 2001. *Classroom Connect,* February, p. 17.

Kielsmeier, J. C. (2000). A time to serve, a time to learn. *Phi Delta Kappan, 81,* 652-8.

Leary, R (personal communication, October 15, 2000).

Loschert, K. (2001). In the service of learning or just learning to serve? *Community College Week, 13,* 6-9.

Lott, C. E. & Michelmore, C. W. (1997). Learning through service: a faculty perspective. *Liberal Education, 83,* 40-46.

Lumsden, G. & Lumsden, D. (2000). Australia: Wadsworth.

Mann, S. & Patrick, J. J. (2000). *Education for Civic Engagement in Democracy.* Bloomington, IN: ERIC Clearinghouse for Social Studies/Social Science Education.

McAleavey, S. J. (1996). Service learning: theory and rationale. *Disciplinary Pathways.* Community College National Campus Compact.

McNiff, J. (2001). *Action Research: Principles and practice.* London: Routledge.

McNiff, J., Loman, P, & Whitehead, J. (2001). *You and Your Action Research Project.* London: Hyde.

Melchior, A. (2000). Service learning at your service. *Education Digest, 66,* 26-33.

Mills, G. E. (2000). *Action Research: A guide for the teacher researcher.* Upper Saddle River, NY: Merrill.

Morris, D. & Shapiro, I. (1993). *John Dewey: The Political Writings.* Indianapolis: Hackett.

Murnane J. & Levy K. (2000). *Standards Needed to Get a Middle Class Job in the 21st Century.* Boston: Harvard University Press.

Norman, G.R., & Schmidt H.G. (1998). The psychological basis of Problem-Based Learning: a review of the evidence. *Academic Medicine, 67,* 16-27.

Oakes, D. (personal communication, May 1, 2002).

Ormrod, J. E. (1999). *Human Learning.* Upper Saddle River, NJ: Merrill.

Ornstein, A. C. & Levine, D. U. (2000). *Foundations of Education.* Boston: Houghton

Pintrich, P. R. & Schunk, D. H. (2002) *Motivation in Education: Theory, Research, and Applications.* Upper Saddle River, NJ: Pearson Education, Inc.

Paul, R. & Elder, L. (1999). *Critical Thinking Concepts and Tools.* Foundation for Critical Thinking. www.criticalthinking.org.

Pope, D. (personal communication, January 2, 2001).

Rogers, C. & Freiberg, H. J. (1994). *Freedom to Learn.* Upper Saddle River, NJ: Merrill.

Ryan, K. & Cooper, J. M. (1998). *Those Who Can, Teach.* Boston: Houghton Mifflin.

Ryan, A. (1995). *John Dewey and the High Tide of American Liberalism.* New York: W. W. Norton.

Sage, S. (1997). What does it take to become a teacher of problem-based learning? *Journal of Staff Development, 18,* 32-6.

Schmuck, R. A. (1997). *Practical Action Research For Change.* Arlington Heights, IL: Skylight.

Sewall, A. M. (1997). Serving to learn and learning to serve. *National Forum, 77,* 3, 3-4.

Silverman, S. L. & Casazza, M. E. (2000). *Learning & Development: Making* Connections to Enhance Learning. San Francisco: Jossey Bass.

Stepien, S. & Gallagher, S. Problem-based learning: as authentic as it gets.

Stringer, E. T. (1999). *Action Research.* Thousand Oaks, CA: Sage.

Stringer, E. T. (1996). *Action Research: A handbook for practitioners.* Thousand Oaks, CA: Sage.

Suskie, L.A. (1996). *Questionnaire Survey Research: What works.* Tallahassee, FL: Association for Institutional Research, Florida State University.

Tinto, V. (personal communication, March 1, 2002).

Torp, L., and Sage, S. (1998*). Problems as Possibilities: Problem-Based Learning for K-12 Education.* Alexandria, VA: Association for Supervision and Curriculum Development.

Turner, P. J. (personal communication, September 2, 2002).

Weah, W., Simmons, V. & Hall, M. (2000). Service learning and multicultural/multiethnic perspectives. *Phi Delta Kappan, 81,* 9, 673-676.

Willekens, R. (personal communication, October 10, 2002).

Woolfolk, A. (1998). *Educational Psychology.* Boston: Allyn and Bacon.

APPENDIX A: STUDENT QUESTIONNAIRE SURVEY

STUDENT SURVEY

Given to Small Group Communication Students at Estrella Mountain Community College
August 2002
By: Roselyn M. Turner, Communication Faculty

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1. NAME_____

2. AGE: 16-20_____ 21-25_____ 26-30_____ 31-35_____ 36-40_____ 41-45_____ 46-50_____ 51-55_____
56-60_____ 61-65_____ 66-70_____ 71-75_____ 76-80_____ 81-85_____ 86-90_____ 90-95_____

3. GENDER: Male_____ Female_____

4. RACE/ETHNICITY: White (not Hispanic) _____ Hispanic_____ African American_____
Native American_____ Asian_____ Other_____

5. EDUCATIONAL GOAL: High School Diploma____ No Degree_____ 2-Year Degree____ Certificate____ 4-Year Degree_____ Masters Degree____ Doctorate_____

6. YOUR RESIDENT CITY: _____ YOUR ZIP CODE_____

7. HOW MANY YEARS LIVED IN THAT CITY: Less than 1_____1-5____ 6-10____More than 11____

8. MAIN SOURCE OF EDUCATION FUNDING: Loan_____ Scholarship_____ Grant_____ Parents_____
Personal Funds_____ Place of Employment_____

9. MAJOR OR AREA OF ACADEMIC INTEREST: _____

10. REASON FOR ATTENDING EMCC: Degree/Transfer_____ Career Enhancement_____ Certificate_____
Personal Growth_____ Other_____

11. NUMBER OF HOURS THIS SEMESTER: _____

12. EITHER OR BOTH PARENT(S) ATTENDED COLLEGE: Yes_____ No_____

13. EITHER OR BOTH PARENT(S) GRADUATED COLLEGE: Yes_____ No_____

14. IF YOU HAVE ADULT CHILD(REN), ANY OF THEM ATTENDED COLLEGE: Yes___ No____

15. IF YOU HAVE ADULT CHILD(REN), HAVE ANY GRADUATED COLLEGE: Yes___No__

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16. YOUR PREDOMINANT LEARNING STYLE/PREFERENCE:

Innovative (Discussion)_____ Analytic (Thinker)_____
Common Sense (Hands-On)_____ Dynamic (Self-Discovery)____

17.RANK YOUR VALUES WITH 1 BEING ***MOST IMPORTANT*** AND 10 BEING ***LEAST IMPORTANT***:

_____Recreation/Leisure	_____Financial Security	_____Friends	_____Religion/Faith
_____Career	_____Health/Fitness	_____Character	
_____Citizenship/Service	_____Education	_____Family	

If **volunteerism** is defined as service to the community that is not paid for, includes a commitment for a particular duration of time, and is NOT a part of your college or legal requirement, are you:

18. CURRENTLY ENGAGED IN VOLUNTEERISM: Yes_____ No_____

19. IF YES, HOW MANY HOURS PER WEEK: Less than 2____ 2-5____ 6-10____More than 10____

20. IF YES, WHERE DO YOU SERVE:_____

21. IF NO, WHAT IS YOUR REASON:_____

22. ENGAGED IN VOLUNTEERISM IN PAST: Yes_____ No_____

23. IF YES, WHERE DID YOU SERVE:_____

24. WISH TO ENGAGE IN VOLUNTEERISM IN THE FUTURE: Yes____ No____ Don't Know_____

If **Service Learning** is defined as service to the community that is not paid for, includes a commitment for a particular duration of time, and ***IS*** a requirement for your course work, are you:

25. CURRENTLY ENGAGED IN SERVICE LEARNING (Through college course): Yes_____ No_____

26. IF YES, HOW MANY HOURS PER WEEK: Less than 5____ 6-10____11-15____ More than 15____

27. ENGAGED IN SERVICE LEARNING IN PAST: Yes_____ No_____

28. DESIRE TO ENGAGE IN FUTURESERVICE LEARNING: Yes____No____ Don't Know____

29. **IF** YOU HAVE ENGAGED IN SERVICE LEARNING, RATE YOUR EXPERIENCE(S):
1= Very Strong 2=Strong 3=Neutral 4=Weak 5=Very Weak

_____Personal Satisfaction	_____Effective Collaboration
_____Learning Experience	_____Faculty Instruction/Facilitation
_____Growth Experience	_____Problem-Solving
_____Suits Your Learning Style	_____Encouraging to Continue Beyond Course Requirement

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30. HOW MUCH KNOWLEDGE DO YOU HAVE ABOUT THE FOLLOWING SMALL GROUP COMMUNICATION TOPICS? 1=Expert 2=A lot 3=Some 4=Very Little 5=None

_____Types of Groups/Teams	_____Membership
_____Goal Setting	_____Leadership Styles

____Agenda Planning
____Innovative/Creative Thinking
____Problem Analysis
____Decision Making
____Leadership Responsibility
____Team Problems
____Helping Leaders
____Task Analysis
____Meeting Formats
____Team Building
____Team Attributes (Identity, Syntality, Climate)
____Critical Thinking
____Problem Solving
____Nonverbal Communication
____Groupthink
____Conflict Resolution
____Group Processing
____Collaborative Research
____Synergy
____Consensus

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31. AT WHAT LEVEL OF INTERCULTURAL SENSITIVITY ARE YOU ? (check only 1)

____ Denial ____Defense ____Minimization ____Acceptance ____Adaptation ____Integration

---

32. WHAT ARE YOUR GOALS FOR THIS CLASS?

33. WHAT DOES IT MEAN TO BE A GOOD CITIZEN?

34. WHAT PROBLEMS ARE YOU MOST CONCERNED WITH ON THIS CAMPUS OR IN THE COMMUNITY?

APPENDIX B: COURSE COMPETENCIES AND SYLLABUS

Estrella Mountain Community College
COM230 Small Group Communication
Fall 2002, Section 1534, TTh 8:30-9:45 a.m.
Roselyn M. Turner, Instructor
Office Hours: MWF 9-10 a.m. TTh 1-2 p.m.
MON241, (623)935-8454 (EMCC), (623)907-3839 (Home)
roselyn.turner@emcmail.maricopa.edu

Course Description

Principles and processes of small groups and development of skills for participation and leadership in small group settings. Practice in problem solving, decision-making, and information sharing.

Course Competencies

1. Identify and describe the basic theories of small group communications.
2. Identify and describe the purposes and functions of small groups.
3. Identify and describe the characteristics of a variety of small groups structures.
4. Organize and conduct small group meetings using a variety of formats.
5. Identify the major factors of small group dynamics.
6. Identify and describe the roles involved within groups.
7. Apply verbal land nonverbal communication techniques in the small group process.
8. Describe how differences in the background and experiences of group members impacts the small group process.
9. Identify and demonstrate strategies for developing a supportive climate in a small group.
10. Identify and use effective conflict management strategies in a small group.
11. Demonstrate intercultural sensitivity within the group process.
12. Identify and use team-building techniques.
13. Demonstrate effective interpersonal communication skills in small group settings
14. Use meeting management techniques to organize, plan, and conduct a small group meeting.
15. Identify information required in the research of a topic.
16. Describe the techniques of information management.
17. Identify and describe theories and styles of leadership
18. Identify, describe, and demonstrate key leadership functions within small groups.
19. Use appropriate problem solving techniques to identify, analyze and resolve a problem in a small group setting.
20. Utilize Internet technology for communication.
21. Utilize multimedia support to enhance presentations.

Course Evaluation

Grading Criteria: 90-100% = A 80-89% = B 70-79% = C 60-69% = D <60% = F

In-class Activities (10 points each)
Homework Exercises (10 points each)
Group Projects (50-500 points each)

Required Materials

Student readings packet (provided by the instructor) from *Communicating in Groups and Teams*,

(2000). Lumsden & Lumsden, 3rd Edition. Wadsworth: Belmont, California. 2000.
One notebook for keeping notes, handouts, and research materials.
Two 3.5 DSHD floppy disks (double-sided high density) or One Zip 100 disk
Poster boards, or overhead projector transparencies, or other materials as needed for visual aids or props

Homework Policies

The design of this course includes a commitment to perform a minimum of 30 hours (2 hours per week) of Service Learning. Service performed outside of class will be considered homework, and no additional homework assignments will be required during that time. The course may also require time outside of class for group meetings (in person or on the internet) that will also count as homework time.

Course assignments are due on the day scheduled within the first 10 minutes of the start of class. If you arrive in class more than 20 minutes late on a due date, your assignment will be penalized 10%. Assignments more than one class session late will not be accepted, and a score of 0 points will be recorded for that assignment.

You will receive two grades for group projects and presentations—an individual score and a group score. Each group project or presentation will have built-in individual accountability and positive interdependence. In addition, you will engage in self-evaluations and group processing that will also determine your grades.

In-class group work cannot be made up unless the student communicates with the instructor and the group members about a necessary absence PRIOR to the absence. Violating the attendance policy may lower grade.

Extra credit may be afforded students who, are, at the time, passing the course and who have not violated the attendance policy. Extra credit opportunities may included participation in, and support of, service and communications events on or off campus.

Attendance and Tardy Policies

Because of the very nature of this class (i.e., GROUP), it is imperative that students attend all classes. Your established group will be dependent upon you to fulfill your role and tasks in class. Students may be dropped from the class after three absences.

Occasional tardiness is understandable, but if it becomes continual, a private conference will be held between student and instructor. Class will always begin on time, and being tardy means missing important instruction, learning, and performance.

Other Policies

A grade of "Incomplete" will be given at the discretion of the instructor, and only if a student, at the time of the request for an "Incomplete" has performed up to that point at a 70%, or higher, level. The grade of "Incomplete" is not available to students who are performing at less than a 70% (D or F) level.

Policies regarding plagiarism, grade appeals, student grievance, special services, and other concerns are included in the Estrella Mountain Community College 2002-2003 Student Handbook.

Common courtesy to classmates and instructor dictates that all cell phones and pagers should be turned off or put on vibrate mode during class time.

Disclaimer Statement

Instructor reserves the right to alter course assignments and due dates to meet the needs of the class.

Instructor Availability

This instructor firmly believes in the philosophy that "YOUR success is MY success." My job is to teach you and provide the conditions, to the best of my ability, to help you achieve the course competencies. I, therefore, make myself available to you for conferences during my office hours and/or by appointment. Please communicate with me and your assigned group members if you have advance notice of a necessary absence so that arrangements can be made for make-up.

COM230 Small Group Communication
Fall 2002 Course Assignments and Due Dates

"We can all be great, because we can all serve."
--Martin Luther King

Readings will be from the required textbook
Class discussions will relate the course concepts to the Problem-Based Learning and Service Learning experiences

T,8/27 "I'd really rather work alone…" Your Groups and Teams
Introduction to course
"I'm not a leader—I'm a follower!" Your Teamwork Responsibility
Set up computer and BlackBoard account at EST Commons
Homework: Read pp. 12-24 - "Your Groups and Teams" and do ex. #2, p.31 and Read pp. 28-31- "What Leadership Means" and do ex. #1, p. 50

Th,8/29 "I can't do it all myself!" Helping Leaders Help the Team
Roster, Truth/Truth/Lie, Scavenger hunt
"Them. They. Those People." Intercultural Competency
"Diversity is not black and white." Learning Styles
Diversity brainstorming, discussion
Homework: Student Survey, and read assigned article

T,9/3 "Make a team outta this group?" The work in teamwork.
Group processes, shared image activity
"We'll solve the world's problems!" Problem-Based Learning (PBL) and Service Learning (SL)
Jigsaw/presentation assignment
Homework: Individual assignments
Read pp. 356-365, "Common Preparation Steps"

Th,9/5 "Now that we know it all, how do we tell the world?" PowerPoint Workshop
Groups prepare PBL and SL presentation. Save on TWO disks.

T,9/10 "Now we see the whole picture!" PBL and SL Presentations.
PBL/SL Assignment, possible guest speakers

Homework: Conduct research regarding volunteer/problem-solving opportunities on and/or off campus.

Th,9/12	"Hey! I need a group!" Group Formation for PBL/SL Project Sharing of information—opportunities, problems, schedules Group formation, group identity activity PBL process—Problem statement, what you know, what you need to know, hypotheses, research *Homework: Read pp. 262-274, "Approaches to Leading" and do ex. 1* *Individual research assignment*
T,9/17	"Who is the "new leader?" Visionary, Transformative, Inclusive, and Servant Leadership. Ex. 2, p. 275 "I need a plan, man." Planning the SL project Sharing of research findings, timeline completion, task assignments *Homework: Individual assignments* *Ex. 3, p. 303*
Th,9/19	"Why can't I just go along with the group??" Groupthink. Read assigned section from pp. 288-292 and handout. Do ex. 4, p. 303 Progress reports regarding SL projects
T,9/24	"Whaddya mean I can't give a 'thumbs-up'?" Nonverbal Communication Reform groups, Group research assignment Research and DiscussionBoard training
Th,9/26	Group Research at EMC commons
T,10/1	"So, how are we gonna present?" Public Meeting Formats Forum, Symposium, Lecture, Panel, Colloquy, Debate, Performance, Buzz Group, Role Playing, Workshop, Seminar, pp. 336-347 Research/presentation preparation
Th,10/3	Group Presentations on Nonverbal Communication Group, Self, and Peer evaluations Progress reports and discussions regarding SL projects *Homework: Read p. 241- "Active Listening"*
T,10/8	"What's that you said?" Active Listening *Homework: Read p. 296-300 – "Conflict"*
Th,10/10	"Let's just duke it out!" Conflict Management Sharing of Service Learning Journal entries
T,10/15	"So, how are we doin'?" Mid-term Assessments and Interviews Potluck
Th,10/17	Native American Program at CTL (option to Service Learning processing) *Homework: Read pp. 212-215 – "Stereotyping"*
T,10/22	"What's in a *label?* That which they label a rose is still as sweet…" From Stereotypes to People Decision-making/labeling group activity and processing

Homework: Read pp. 291-295 – "Gameplaying"

Th,10/24	"The games people play––and I don't mean Monopoly!" Game Playing Gamebook assignment and planning
T,10/29	Preparation of Gamebook
Th,10/31	Group presentations of Gamebook
T,11/5	PBL/SL progress reports and group discussions
Th,11/7	"Decisions, decisions!" Achieving Consensus Consensus processes—brainstorming, post-its, force-field, on the line
T,11/12	"Is it right or wrong?" Ethical Group Communication "Code of Ethics" group brainstorming and consensus activity
Th,11/14	Preparation of "Code of Ethics"
T,11/19	Presentation of "Code of Ethics"
Th,11/21	"We've come a long way, baby!" Final PBL/SL presentation assignment and planning *Homework: Individual Assignments*
T,11/26	Presentation planning (PowerPoint or web page)
Th,11/28	No Class (Thanksgiving Holiday)
T,12/3 Th,12/5	Presentation planning

T,12/10 Final PBL/SL Presentations (Final Exam)

Th,12/12	Final PBL/SL Presentations and Potluck *Homework: Sign up for more Communication courses!*

"We make a living by what we get,
but we *made* a life by what we *gave*."

APPENDIX C: SERVICE LEARNING ASSIGNMENT AND TIMELINE

COM230 Small Group Communication
Fall 2002, Roselyn M. Turner, Instructor

Service Learning Project

PURPOSE

Service Learning is authentic, experiential learning in which the focus is collaborative decision-making, planning, and implementation of service that results in student learning and betterment of community.

OBJECTIVES

Students will:

- meet the competencies for the course
- engage in authentic learning
- provide service to others
- foster leadership and followership skills
- enhance communication skills
- engage in creative and critical thinking
- become more culturally aware and competent
- grow in citizenship

PROCESS

1. Collaborative (jigsaw) research on Problem-Based Learning (PBL) and Service Learning
2. Group presentations on PBL and Service Learning
3. Identification of campus/community problems (needs, tasks, opportunities)
4. Select the problem to be solved --"SMART" (DuFour, 2002)
    a. Specific—Is the problem clearly defined so that strategies can be developed?
    b. Measurable—Can the results be measured to determine if you were successful or not?
    c. Attainable—Is it realistically achievable?
    d. Results—Can your actions be aligned with the intended outcome?
    e. Time Frame—Can it be achieved within the time allowed (1 semester)?
5. Contact community/campus partner
6. Plan the project
7. Implement the project (30 hours)
8. Reflect in journal (throughout the project)
9. Log hours and get partner signature
10. Process and evaluate the project
11. Group presentations of experiences and learning (videotaped)
12. Exit interviews with instructor (audiotaped)

TIMELINE

Aug. 26-Sept. 3—Collaborative research and presentations
Sept. 5—PBL Process, and Service Learning projects begin
Oct. 15—Service Learning assessments (Midterm Exam), evaluations, interviews
Dec. 10-12—Final Presentations, evaluations

REQUIREMENTS

- There will be no compensation for the service
- The service will involve more than menial tasks

APPENDIX D: INTERVIEW AND POST-SURVEY QUESTIONS

Final Interview (or Questionnaire)

1. How has this class, so far, benefited you?
2. How did you feel about your leadership abilities before this class? Now?
3. How did you feel about your communication abilities before this class? Now?
4. How did you feel about your ability to interact with a small group of classmates prior to taking this class? Now?
5. What was the importance of relationships with classmates prior to this class? Now?
6. Has your self-concept (how you see yourself) changed this semester? If so, in what way?
7. Has your self-esteem (how you feel about yourself) changed this semester? If so, in what way?
8. Has your personal view of citizenship changed this semester? If so, how?
9. Has your intercultural competency changed this semester? If so, how?
10. What motivates you to attend college?
11. What has motivated you to attend Small Group Communication class?
12. What motivates you to be punctual to Small Group Communication class?
13. What motivates you to learn in Small Group Communication class?
14. Have you applied anything you learned in this class to your own life? If so, what and how?
15. What did you think of the real life problem solving part of the process for this project?
16. What did you think of the teams aspect of this project?
17. How did you feel about your ability to "make a difference" prior to this class? Now?
18. What do you predict for your ability to be successful in this class (completing the class, and earning the grade you desire)?
19. What do you predict for your ability to solve real life problems in the future?
20. What is your perception of the level of motivation of your instructor at the beginning of the semester? Now?

APPENDIX E: STUDENT JOURNAL ASSIGNMENT

COM230 Small Group Communication

SERVICE LEARNING JOURNAL ASSIGNMENT

Objectives:

- To summarize and think reflectively about the Service Learning experience
- To think critically about Small Group Communication concepts
- To provide ideas and thoughts for the collaborative presentation
- To evaluate your role and skills as an interpersonal communicator and service provider

Process:

1. Following each Service Learning experience (approximately 2 hours), complete the 3 sections of the log.
2. Get required signature for number of hours for each experience.
3. Share and discuss log with group members.
4. Synthesize experiences and reflections for group presentation.

Small Group Communication Concepts

The following are Small Group Communication concepts that you have learned, or will be learning about during the Service Learning experience. Use these concepts in your journal to demonstrate your knowledge and critical thinking. Besides learning in the classroom about these concepts, use your textbook as an additional resource.

- Types of Groups/Teams (p. 6)
- Membership (p. 88)
- Leadership Responsibility (p. 28)
- Helping Leaders (p. 319)
- Team Attributes (p. 94)
- Team Processes (p. 33)
- Intercultural Communication (p. 316, and handouts)
- Goal Setting (p. 67)
- Problem Solving (p. 187)
- Agenda Planning (p. 74)
- Decision Making (p. 193)
- Leadership Styles (pp. 29, 262)
- Groupthink (p. 287)
- Nonverbal Communication (p. 222)
- Public Meeting Formats (p. 337)

APPENDIX F: STUDENT JOURNAL PROMPTS

COM230 Small Group Communication

SERVICE LEARNING REFLECTIVE JOURNAL

Place of Service_____ Date_____ Times_____ to _____

Signature of Partner_____ Title_____

Summary of Observations and Participation:

Reflections/Insights:

Ideas/Questions/Concerns:

APPENDIX G: STUDENT JOURNAL RUBRICS

COM230 Small Group Communication

RUBRIC FOR SERVICE LEARNING REFLECTIVE WRITING

SUMMARY OF OBSERVATIONS AND PARTICIPATION

40-50 Points—Exceptional—Observations and experiences are descriptive and include several examples of Small Group Communication concepts. Descriptions include vivid sensory details.

30-39 Points—Proficient—Observations are descriptive and include some examples of Small Group Communication concepts. Descriptions include some sensory details.

20-29 Points—Acceptable—Observations are vague and include some examples of Small Group Communication concepts. Sensory details are minimal.

1-19 Points—Unsatisfactory—Observations lack description and do not include examples of Small Group Communication concepts.

0 Points—No attempt

PERSONAL REFLECTIONS AND INSIGHTS

90-100 Points—Exceptional—Thoughts and insights appropriately reflect observations and participation. Reflections and insights show genuine critical thinking effort and demonstrate thoughtful and comprehensive analysis of Small Group Communication concepts.

80-89 Points—Proficient—Thoughts and insights appropriately reflect observations and participation. Reflections show genuine critical thinking effort and demonstrate application of Small Group communication concepts.

70-79 Points—Acceptable—Thoughts appropriately reflect observations and participation. Reflections show understanding of Small Group communication concepts.

1-69 Points—Unsatisfactory—Thoughts inappropriately reflect observations and participation. Reflections show little or no knowledge of Small Group communication concepts.

0 Points—No attempt

IDEAS/QUESTIONS/CONCERN

40-50 Points—Exceptional—Ideas, questions, and concerns are practical, creative, logical, and sincere.They are directly related to the Service Learning experiences and their relationship to Small Group communication concepts.

30-39 Points—Proficient—Ideas, questions and concerns are practical, creative, logical, and sincere.They relate to the Service Learning experiences and Small Group concepts.

20-29 Points—Acceptable—Ideas and/or questions and/or concerns are practical, creative, logical, and sincere. They relate to the Service Learning experiences and Small Group communication concepts.

1-19 Points—Unsatisfactory—Ideas and/or questions and/or concerns are not thoughtful and/or not sincere. There is little or not relationship between the ideas, questions, concerns, and Service Learning experiences and/or Small Group communication concepts.

0 Points—No attempt

APPENDIX H: DATA INTERPRETATION QUESTIONS

1. What were the effects on student motivation while engaging in the PBL process to solve real life problems? (Who, What, When, Where, Why, How?)

    - Attendance
    - Punctuality
    - Enthusiasm
    - Initiative
    - Responsibility

2. What were other effects on students while engaging in the PBL process to solve real life problems? (Who, What, When, Where, Why, How?)

    - Leadership
    - Self-Concept
    - Communication Skills
    - Problem Solving Skills
    - Learning
    - Relationships
    - Self-Esteem
    - Citizenship
    - Self-Efficacy
    - Transfer of Learning
    - Relationships

3. What were the effects on teacher motivation while engaging students in the PBL process to solve real life problems? (Who, What, When, Where, Why, How?)

    - Reciprocal motivation
    - Enthusiasm
    - Engage in service
    - Self-Efficacy

APPENDIX I: STUDENT CONCERNS

COM230 Small Group Communication
FALL 2002

Student Concerns (from the Survey):

- Skin cancer awareness
- English proficiency
- Public drinking water contaminants
- Lack of equitable standards/maintenance in neighborhoods
- Local music scene—lack of opportunities to succeed
- # of students on campus
- Homes being built too fast
- Rapid growth of Goodyear/Avondale
- Drugs awareness (ecstasy & others)
- Racism
- Kids fearing going to school
- Uneducated older adults who fear education
- Responsibility
- Cleanliness
- Crime
- Poverty
- Trash
- Too many houses—not enough recreational places
- *Lack of communication about campus clubs, services
- Lack of campus athletics
- Literacy
- Grazing rights
- Lack of respect for agricultural profession
- Opportunities out of class for intellectual stimulation
- Water shortage
- Youth car racing
- Immorality
- Battered women
- Lack of recycling programs
- Signage
- Lack of community involvement
- Youth violence
- No day care facility combined with early child development classes on campus
- Organ donor awareness
- No computer lab at Pappas school for the homeless
- Children without health insurance
- College students with credit card debt
- Lack of off-road access for recreational vehicles

APPENDIX J: CONTENTS OF PROBLEM-BASED LEARNING AND SERVICE LEARNING TEACHER PRESENTATION

COM230 Small Group Communication
Fall 2002

SELECTING THE AREA OF SERVICE

First Consideration: HIGH INTEREST

Group Decision Making: The Process

1. Begin with the "PROBLEM"
   - Research it
   - Narrow it
   - Define it
   - Analyze it
2. What is a "Problem?
   - A task
   - An injustice
   - A lack of service
   - A discrepancy gap
   - An opportunity
   - An attitude
   - A lack of awareness
   - A behavior
   - A need
3. Problem Selection Criteria—SMART (DuFour, 2002)
   - S—Specificity
   - M—Measurable
   - A—Attainable
   - R—Results
   - T—Timely
4. Solving the Problem
   - Chooses criteria for the best solution
   - Propose solutions
   - Evaluate proposed solutions
   - Select a solution
   - Determine strategies for implementing the solution

APPENDIX K: CONTENTS OF GROUP PROBLEM SOLVING BOOKLET

COM230 Small Group Communication
PROBLEM SOLVING: THE PROCESS
Identification, Analysis, & Research of the Problem
Identification, Selection, Planning, Implementation & Evaluation of Solutions

Group Name:
Group Members:

Beginning Date:
Ending Date:

IDENTIFYING THE PROBLEM
The Problem:
Type of Problem (see presentation notes):

ANALYZING THE PROBLEM (SMART) (DuFour, 2002)
Specific enough? Analyze it. Write the problem statement.
Measurable? How?
Attainable? This is realistic because…
Results—What are the intended results?
Timely? Predict a working timeline for the tasks from studying the problem to implementing potential solutions.

RESEARCHING THE PROBLEM
Evidence of the problem –how do you know the problem really exists?
History of the problem—past and present--precedents from other settings or cases?
WHO:
WHAT:
WHEN:
WHERE:
WHY:
HOW?
Documentation:

IDENTIFICATION OF SOLUTIONS
Brainstorming ideas:

SELECTION OF SOLUTION (SMART)
The proposed solution is:
Specific?
Measurable?
Attainable?
Results?
Timely?
The selected solution is:

PLANNING & IMPLEMENTATION OF SOLUTION—TASKS AND WORKING TIMELINE
(WHO, WHAT, WHEN, WHERE, WHY, HOW?)—Use Post-It Notes

EVALUATION OF SOLUTION
What were the results? Did they solve the problem?
Method:
Data:
Results & Conclusions:

APPENDIX L: GROUP PROGRESS TRACKING MATRIX

	TASK	DEADLINE	WHO	DONE
HUNGER				
ORGAN				
COMPUTER				
MUSIC				
LITERACY				
Instructor				

APPENDIX M: STUDENT SELF AND PEER EVALUATION INSTRUMENT

COM230 Small Group Communication

SELF EVALUATION

"The best way to find yourself is to lose yourself in service to others." Mahatma Ghandi
How well did you and [your peer] "serve" your group?

The following are worth 5 points each (total 50 points for this aspect of the project)

_____Attended group meeting (on campus, off campus, online)
_____Was punctual to group meetings
_____Contributed ideas
_____Participated in the planning
_____Participated in the preparation
_____Participated in the presentation
_____Followed through on assigned tasks in timely manner
_____Stayed focused on the task at hand
_____Displayed leadership, and/or helped leadership, when necessary
_____Supported and encouraged other group members
_____TOTAL POINTS DESERVED

Comments:

Signature:

PEER EVALUATION

Name of Peer_____

_____Attended group meeting (on campus, off campus, online)
_____Was punctual to group meetings
_____Contributed ideas
_____Participated in the planning
_____Participated in the preparation
_____Participated in the presentation
_____Followed through on assigned tasks in timely manner
_____Stayed focused on the task at hand
_____Displayed leadership, and/or helped leadership, when necessary
_____Supported and encouraged other group members
_____TOTAL POINTS DESERVED

Comments:

Signature_____

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